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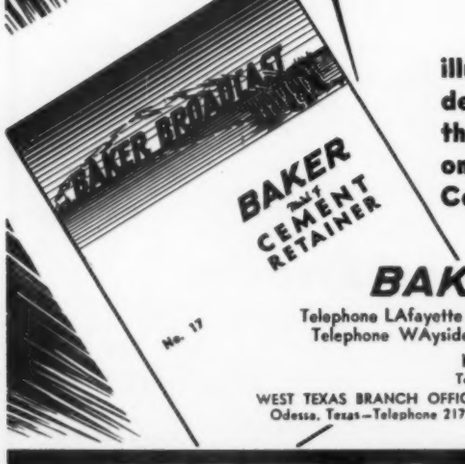

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Rising Stocks of Gasoline Stir Concern

SOARING stocks of gasoline, along with new peaks in crude production, are a subject of increasingly serious thought among leaders in the oil industry. The clamor for heavy fuels and the brisk demand for furnace distillates continues, leading to a suspicion that some refiners are running great quantities of unneeded gasoline to storage in order to take advantage of the unusual market for burning oils. It is known that some refiners, looking beyond immediate gain, are rigidly restricting their production of burning oils to contract requirements. A feeling prevails that some others are laying the foundation for a weak gasoline market in order to seize an advantage of the moment. Gasoline, it is pointed out, occupies first place, in a well-ordered market, among the "money products" of oil. It will be some 10 weeks before the rising demand of the heavy gasoline consuming season becomes visible. In the meantime, total stocks of gasoline are 7,000,000 barrels higher than they were at this time last year and immense additions are being made to them weekly.

With an increase of 56,321 barrels in daily average crude production over the preceding week, the country's output attained a new high in the week ending February 13. Texas and Oklahoma contributed almost equally to the all-time record, Texas with 22,841 barrels and Oklahoma with 22,875 barrels over their daily figures for the week before. Oklahoma, which had accepted the Bureau of Mines recommended allowable of 581,900 barrels daily for February, overshot the mark by 32,725 barrels. Texas, which had ignored the bureau's recommendation and set its February daily allowable at 1,329,478 barrels, kept comfortably within its self-fixed limitation. However, it had allowed itself 126,000 barrels more each day than its requirements as estimated by the bureau. Kansas produced 10,850 barrels more daily than it did the week before, about 6,000 barrels above the bureau's recommendation. Kansas, like Texas, had set its own allowable, and it kept well within that. Louisiana's daily output was 12,877 barrels under that of the preceding week, but it was 13,568 barrels in excess of the bureau's recommendation. Also it was about 3,000 barrels beyond its state-fixed allowable. California was up 8,500 barrels, compared with the week before, and 20,200 barrels above the bureau's recommendation. Other areas showed only minor changes from the week before. The position of the marketing division was improved by the action of the Standard Oil Company (Indiana), which on Wednesday of this week advanced tank-wagon and dealer prices of gasoline in 10 states .3 cent. The scramble for heavy fuel oils continued, with prices up.

Production 3,267,115

Increase 56,321

Daily Average Production for Week

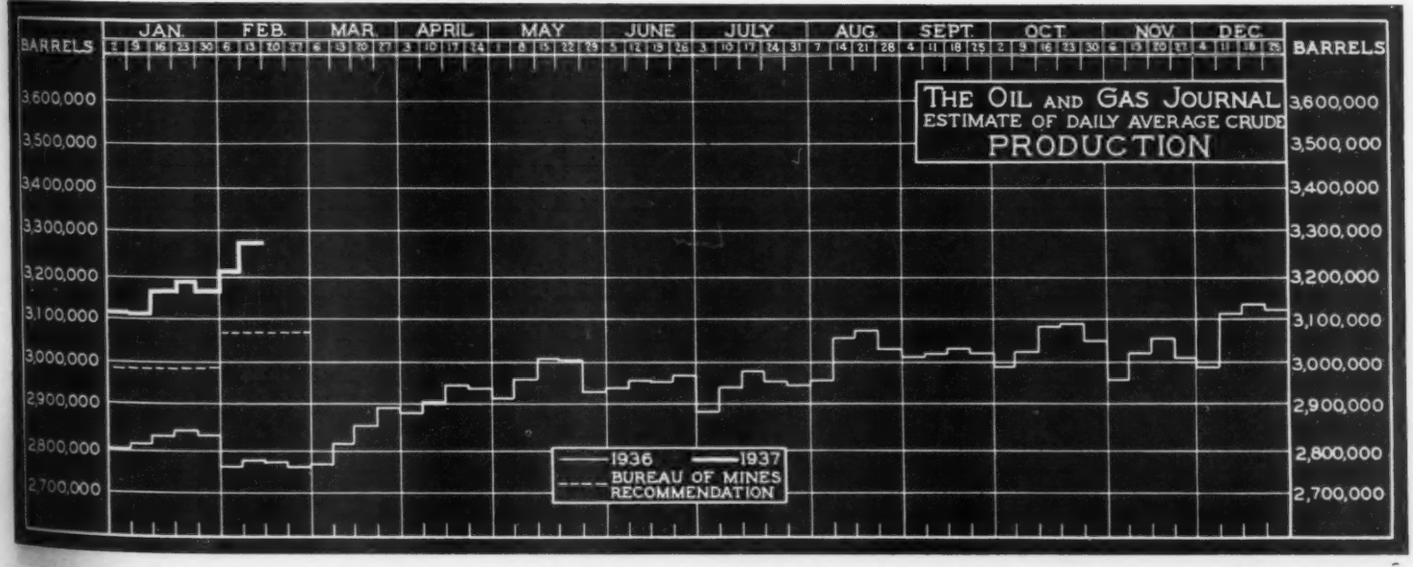
	Feb. 13, 1937	Bur. Mines Feb. est.	Feb. state allowable	Feb. 6, 1937
Oklahoma City	159,200	.....	.....	143,300
Seminole-St. Louis	85,925	.....	.....	87,925
Remainder of State	369,500	.....	.....	360,525
Total Oklahoma	614,625	581,900	581,900	591,750
East Texas	452,494	.....	.....	452,986
West Texas	189,396	.....	.....	172,298
North Central Texas	99,748	.....	.....	99,745
Texas Panhandle	71,593	.....	.....	71,597
East Central Texas	106,649	.....	.....	109,550
Gulf Coast Texas	299,948	.....	.....	291,500
Southwest Texas	104,487	.....	.....	103,798
Total Texas	1,324,315	1,203,400	1,329,478	1,301,474
North Louisiana	69,270	.....	.....	85,145
Gulf Coast Louisiana	169,398	.....	.....	166,400
Total Louisiana	238,668	225,100	235,700	251,545
Santa Fe Springs	45,000	.....	.....	44,300
Long Beach	62,600	.....	.....	62,800
Kettleman Hills	79,500	.....	.....	74,800
Remainder of State	406,400	.....	.....	403,100
Total California	593,500	573,300	*551,100	585,000
Kansas	175,975	170,000	187,918	165,125
Arkansas	26,390	28,500	.....	24,130
Eastern Fields	114,000	114,300	.....	114,250
Michigan	29,762	29,400	.....	29,360
Southeastern New Mexico	82,190	80,550	91,655	82,190
Rocky Mountain area	67,690	62,150	.....	65,970
Total United States	3,267,115	3,068,600	.....	3,210,794

*Recommendation of Central Committee of California Oil Producers.

Crude Oil Stocks in United States

(BUREAU OF MINES ESTIMATES)

Week ending January 30, 1937	285,384,000
Week ending January 23, 1937	285,211,000
Week ending February 1, 1936	313,003,000



SPARKS FROM THE NEWS

Crude output passes previous peak by 56,321 barrels daily, leaving impression that operators and state regulatory bodies are determined to see how far they can go in wrong direction.

Arguments supporting continuance of Connally "hot oil" act are the same as those applicable to law prohibiting interstate transportation of stolen automobiles.

Research building to house 200 engineers and technicians of Mid-Continent oil company is not as sensational news as new field but far more important.

Enlarged budgets and united opposition from other taxing sources are causing state legislatures to turn again to the old reliable oil industry for more revenue.

The fact that capitol is surrounded with derricks may account for fact that Oklahoma legislators always think of the oil industry when new taxes are suggested.

An Osage County, Oklahoma, well abandoned for over a year opens new producing horizon when deepened 93 feet, pointing to a revival of interest in old areas.

Polymerization in few months will be producing more than 1,000,000 gallons daily of high-quality gasoline from refinery gases formerly burned as fuel or wasted.

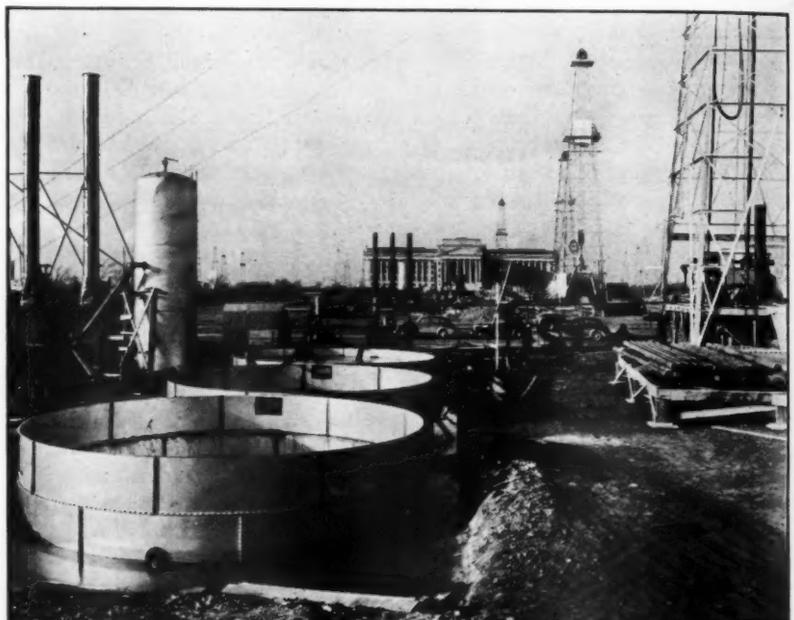
Coastal Louisiana continues in limelight with two tests which apparently open new fields.

Final Bureau of Mines figures covering 1936 refinery operations show that predictions on demand of a year ago were all too low.

Developments in the prospective Marion County, Texas, field have reached the point of waiting to see what the second well does.

Proposed increases in taxes on producing and refining operations of oil states strengthen competitive position of operators outside this country.

A MESSY FRONT YARD



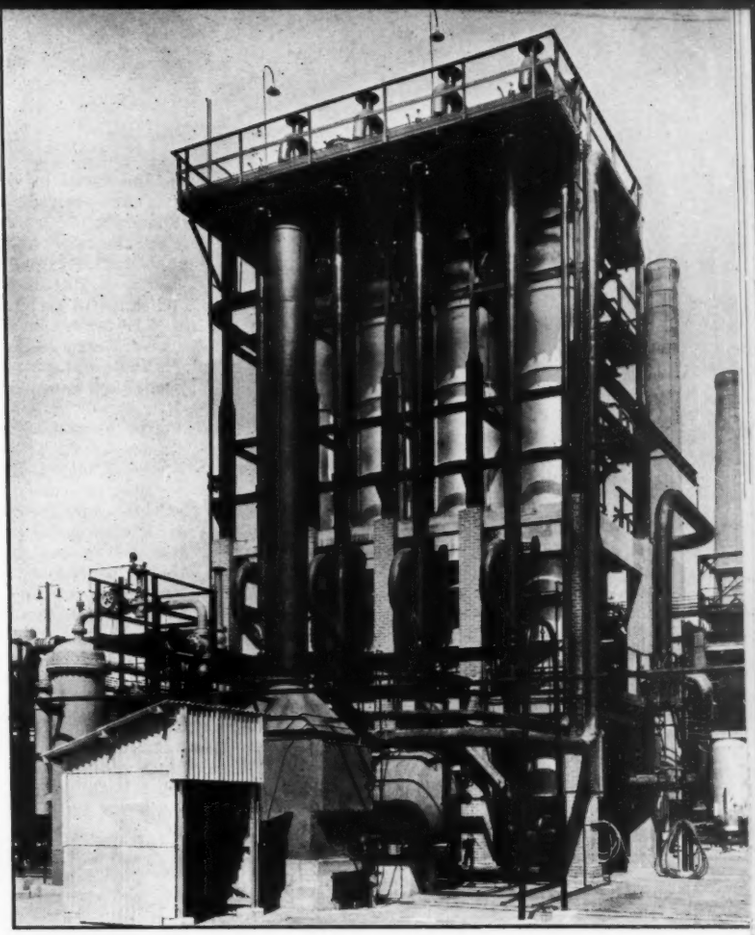
Drilling on Capitol grounds at Oklahoma City. Tank rings used as slush pits to conserve space.

Ending of automobile strike not only is a bullish gasoline market development, but it also means resumption of industrial fuel oil buying in several areas.

Heaviest gasoline demand of record summarize the reports from the winter tourists areas, indicating what is to be expected next summer in other sections.

Natural gasoline output last year totaled 1,765,722,000 gallons. This would have supplied entire country 25 years ago, but now represents only 8 per cent of total requirements.

Manufacture of Gasoline From Gases Spreading



Catalytic polymerization unit at Port Arthur, Tex., refinery of The Texas Co.

By C. O. WILLSON

The polymerization of refinery gases in the manufacture of gasoline, a development whose commercial possibilities first received general recognition less than two years ago, is rapidly gaining momentum.

With a half-dozen installations contracted for since the first of the year there are now 24 units assured for domestic and foreign refineries with a new installation being completed to operate with gases available from a natural gasoline plant.

The domestic installations are located at plants which refine approximately 20 per cent of the crude oil produced in this country and the foreign units include several of the oil industry's largest refineries. In most cases the initial installations now being constructed will not have sufficient capacity to handle all the plant gases available for processing. Several of these first units will be in the nature of trial operations, to be followed with larger installations of the type and capacity required to take care of all gases which it is feasible to polymerize with the present commercial applications.

A large number of other refinery operators have made investigations covering their requirements, and it is certain that within the next few months additional installations will be announced. In this connection it is worthy of note that during the past year in every instance in which a new refinery of large capacity has been built or an existing major plant enlarged, facilities for the polymerization of gases were part of the construction program.

Outside the refineries the possibilities of polymerization operating with the tremendous volume of gas now sold as fuel or wasted are being investigated and developments in this field are to be expected before the end of the year.

Another indication of the possibilities of this new art over the next few years is the wide interest displayed by those connected with the research and development departments of refineries and other manufacturing operations. The demand for higher octane gasolines and the close tie-in of polymerization with the development of a chemical manufacturing industry are among the factors which have focused the attention of many of the industry's leading technologists.

STARTLING POSSIBILITIES

Their investigations are not limited to the polymerization of olefin hydrocarbons present in gases from existing cracking operations. They are interested in its extension to the point where all natural and plant gases would be raw material in the manufacture of commercial gasoline supplemented by a wide range of chemical and specialty products.

Assuming that these scientific investigations in laboratories and pilot plants obtain commercial significance in plant operations, the economic possibilities in relation to future motor fuel production are startling. It is estimated that the polymerization of all the olefin hydrocarbons produced in existing cracking operations would mean a yearly production of gasoline in excess of 1,000,000,000 gallons, or about 5 per cent of the present total output of gasoline at refineries in this country. This total, however, is hardly more than a start should the application be extended to include the polymerization of a wide range of paraffin hydrocarbons produced at refineries and natural gasoline plants and more than 350,000 oil and gas wells scattered throughout the countries.

In this connection, many are coming to consider all gas in pounds, rather than in cubic feet which helps to visualize the possibilities of gas when considered as raw material in the production of finished products. For example the approximately 2,200,000,000 m.c.f. output of natural gas last year based on an average weight per thousand cubic feet is equivalent to more than 300,000,000 bbls. of liquid petroleum. The bulk of natural gas by weight is methane, a refractory hydrocarbon, not suitable for the present commercial polymerization operations, a situation which may change later. Other investigations have attempted to estimate the quantity of butane, propane and other hydrocarbons which can be cracked and polymerized, but which are now either blown into the air or burned as fuel. One report showed that the potential supply of polymerized gasoline available from the residue gas of several hundred natural gasoline plants exceeded the 1,765,722,000 gallons natural gasoline compressed and absorbed from the gas in the plant operations. This figure included the butane and propane removed from the finished gasoline in the stabilizing operations. The extension of polymerization to include this raw material appears to be largely dependent on the working out of plans to collect and transport the gases to central points for processing.

LICENSED INSTALLATIONS

The installations licensed by the Polymeriza-

Polymerization Rapidly Increasing in Importance

Twenty-five installations for the manufacture of gasoline by polymerization of gases are now operating or under way, involving expenditure in excess of $20,000,000.

These initial plants will manufacture 25,000 barrels daily of high octane gasoline. Possible output from industry's available gases, based on present development of art, is many times this amount. Higher price levels will extend its applications.

It is an important contribution to development of the chemical branch of the oil industry.

It is significant as a conservation measure, as every barrel of polymerized gasoline, obtained from gases now used as fuel or wasted, reduces crude oil requirements two barrels.

tion Process Corp. and the Alco Products Co., Inc., and Pure Oil Co. and their approximate rated capacity in finished gasoline are as follows:

THE POLYMERIZATION PROCESS CORP.

Company, refinery and location—	Capacity (bbls. daily)
Atlantic Refining Co., Atreco, Tex.	1,100
Atlantic Refining Co., Point Breeze, Pa.	1,800
Humble Oil & Refining Co., Baytown, Tex.	3,200
Phillips Petroleum Co., Borger, Tex.	3,500
Phillips Petroleum Co., Kansas City, Kans.	500

ALCO PRODUCTS CO., INC.-PURE OIL CO.

Imperial Japanese Navy, Tokuyama, Japan	200
Atlas Pipe Line Co., Shreveport, La.	600
Anglo-Iranian Oil Co., Ltd., Abadan, Iran	600
Yacimientos Petroliferos Fiscales, La Plate Argentine	600
Tide Water-Associated Oil Co., Avon, Calif.	800

Of this list, only the plants of the Japanese navy and the Phillips and Atlas companies are actually in operation at this time, the remainder being under construction. It is probable that the indicated capacities for these new plants will be materially changed after they have been in operation for a time.

The following domestic companies have been licensed to operate catalytic polymerization or iso-octane plants by the Universal Oil Products Co.: Pan American Refining Corp., Texas City, Tex.; Shamrock Oil & Gas Corp., Moore County, Texas; Shell Petroleum Corp., East Chicago, Ind.; Sinclair Refining Co., Markus Hook, Pa.; Texas Co., Lockport, Ill.; Texas Co., Port Arthur, Tex., and Wilshire Oil Co., Inc., Santa Fe Springs, Calif.

The foreign licensees of this company so far announced are: Anglo-Iranian Oil Co., Ltd., Abadan, Iran; De Bataafsche Petroleum Mij (Shell), Curacao, Dutch West Indies; De Bataafsche Petroleum Mij, Pernis, Holland; Mashinoimport, U.S.S.R.; Petrol Block Societate Anonima Romana, Ploesti, Rumania, and Trinidad Leaseholds, Ltd., Point-a-Pierre, Trinidad, British West Indies.

Most of these plants are also still under construction and their rated capacities are not given. It is certain, however, that when all the plants licensed by the three concerns are in operation they will produce in excess of 25,000 bbls. of gasoline daily with an octane rating ranging from 80 to 100. While this initial production is small when compared to the present 1,500,000-bbl. daily supply of motor fuel in this country, it will be increased steadily. As a conservation development it is pointed out that the output of the new plants will reduce crude requirements by 50,000 bbls. daily.

Deep Oil Pay Zones Goal of Stephens Wildcats

By DAL DALRYMPLE

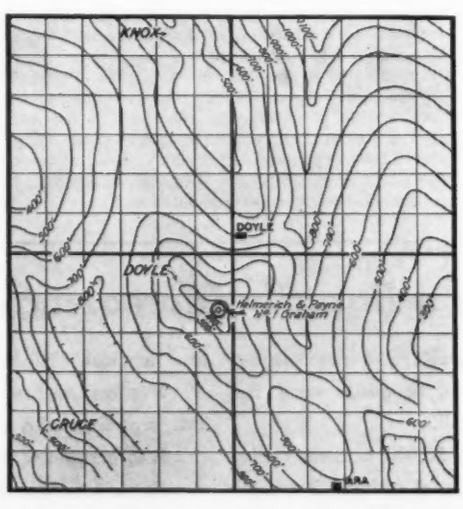
Stephens County, scene of one of Oklahoma's sensational oil booms back in 1919-1920 when the Empire and Duncan fields were in their heyday, is gradually taking the lead in exploration work in the state with several deep wildcats starting and others proposed. This search for deep pay horizons received an impetus from and is partly the result of the deep strike of Carter Oil Co. and associates in the old Fox field of Carter County.

One of the Stephens County wildcats, Carter Oil Co. and others No. 1 Harley, C NE NE section 24-2s-4w, is 1¼ miles north and 4 miles west of the deep Fox well. It is in the old Milroy area of Stephens County, just west of the Carter County line. At last report it was bottomed at 1,000 feet and was waiting on cement after setting casing. This well is scheduled to go to the 8,200-foot level in quest of deep pay zones. Skelly Oil Co., Gulf Oil Corp. and Magnolia Petroleum Co. are interested with the Carter company in this operation.

Another deep wildcat that will be closely watched has been started in the northeast part of the county at Helmerich & Payne and others No. 1 Graham, SW SW NE section 12-1n-5w. This is a scheduled 5,000-foot test, on a block of 2,000 acres in the old Doyle area. This deal was worked up by Joseph M. Wren and J. K. Leard, of Tulsa, who contracted with Helmerich & Payne, Inc., for drilling the well.

The Doyle pool was opened in September, 1922, by Clark & Cowden, with a 75-bbl. well in section 11-1n-5w, at total depth of 1,090 feet. The pool is located on a pronounced surface nosing, with a southeast-northwest trend, being approximately in the southeast corner of section 12 and ending in the southeast quarter of section 3. The subsurface structure is said to conform closely to the surface structure, with the exception that the subsurface structure shows a closure of about 30 feet, with the highest wells located in section 12. A well drilled in NW cor. SW NE section 12-1n-5w, produced an estimated 22,000,000 feet of gas from the shallow horizon. Heretofore, the Doyle pool has not been tested for production in the Deese formation, the big producing horizon in many southern Oklahoma pools. The trend of the axis of the Doyle structure seems to indicate it is on the same general fold upon which the Tussy pool is located. Tussy production is from sand members of the Deese formation.

Wells have been drilled off the Doyle structure to depths of 3,825 feet in section 18-1n-4w and 4,380 feet in section 2-1n-5w, both wells topping the Deese formation at approximately 3,700 feet, according to George F. Thomas, geologist for Wren & Leard. They lacked enough depth, however, to encounter thick sand sections found in another off-structure well in section 9-1n-5w, which found the Deese at about 4,000 feet. It is expected No. 1 Graham will find the Deese sands from 400 to 500 feet higher than the well in section 9-1n-5w. If this is the case, operators believe oil from the Anadarko Basin to the north should be found in these sands.



Helmerich & Payne and others are starting a deep test on the old Doyle structure, Stephens County

Companies contributing to this test include Texas Co., Gulf Oil Corp., Sun Oil Co., Sunray Oil Co., Minnehoma Oil & Gas Co., Royal Oil & Gas Co., Clark & Cowden, Murphy Oil Co. of Pennsylvania, and Judge R. A. Hefner, Oklahoma City. The accompanying map shows location of the wildcat on the Doyle structure, with general locations of the Doyle, Cruce and south end of the Knox pools indicated.

Angle & Angle and others have spudded No. 1 G. S. Posey, C NW NW section 8-1n-8w, northwest of Duncan and north of the North Duncan field. This wildcat is to be a 5,500-foot test. Louis Sikes, drilling contractor of Duncan, has the contract. The same operators have staked location for No. 1 Irvine, SW SW NE section 24-1n-7w, wildcat northeast of Duncan.

Coline Oil Co. No. 1 Johnson, SW SE NE section 1-2n-8w, wildcat northwest of Marlow and near the Grady County line, has been shut down at contract depth at 6,500 feet, but was expected to be deepened another 500 feet. It has penetrated several sands, with oil shows and stains.

H. J. Edwards No. 1 Frederick, NE SE NW section 31-2n-8w, wildcat, northwest of Angle & Angle No. 1 Posey and in the Nellie gas area, had a fishing job at 2,800 feet and was shut down. It is due to test the 4,500-foot zones.

Jack Cohen No. 1 Pierce, wildcat in NE NE NW section 24-2s-6w, east of Comanche and near the Woolsey pool, was shut down for fuel at 400 feet.

Another deep test is proposed in the S half of section 17-3s-4w, west of the old Dixie pool and southeast of Loco. A deal also is reported under way for a 4,000-foot test in SE section 35-1n-4w, west of the Tussy area of Carter and Garvin counties. Several other deep tests for Stephens County are being considered, but definite announcements have not been made. Certainly, Stephens County, along with other sections of southern and southwestern Oklahoma, is due for an intensive deep drilling campaign this spring and summer.

New Research Laboratory for Phillips Petroleum

Frank Phillips, president of the Phillips Petroleum Co., announces plans for a new research laboratory building, which will be located close to the present office building in Bartlesville, Okla. The new laboratory will be a two-story building, 70x210 feet, modern in every respect, including air-conditioning. Space will be provided to accommodate 200 research engineers and technicians. Additional equipment will be installed to permit enlargement of the activities of the research department.

The department is composed of 12 sections, each working in special fields of petroleum technology. It has materially assisted in many developments important not only to the company but to the industry at large, such as seasonal control of the volatility of motor fuels, aviation natural gasoline, development of liquefied petroleum gas for domestic, industrial and commercial purposes, processes for converting gases into gasoline, the copper sweeting process, and many minor improvements in the production of crude, in the manufacture of natural gasoline and in refining. Substantial contributions have been made in regard to testing methods and specifications for petroleum products.

Cat Creek Contract

Secretary Ickes has announced a contract with Continental Oil Co. to purchase government royalty oil from Cat Creek for five years beginning February 1, at a premium of 31 cents per barrel above the highest field price for oil of equal or lower gravity in Oklahoma and Kansas, Wyoming or Montana.

Six Active Craters From Gas Blowout in Sullivan Pool

By NEIL WILLIAMS

CORPUS CHRISTI, Tex.—The succession of gas blowouts in the Sullivan pool, southwest of the Aqua Dulce field, Nueces County, Texas, has created one of the most serious crater conditions ever faced on the Gulf Coast. Six craters, all still active, have been formed. The latest, which resulted when an abandoned water well blew out February 3, extended the crater area nearly 1,500 feet.

SEEN FROM CROWN BLOCK OF RELIEF WELL— *Large crater is original blowout since active and burning. Two other craters burning, one around producing well*

Included in the six craters are the original Texon Drilling Co. No. 2 Clara Driscoll Sevier, which blew out while drilling; the same company's No. 1 Elliff, a producing oil well 933 feet southwest; three craters formed when high-pressure gas broke through the surface formations; and the old water well.

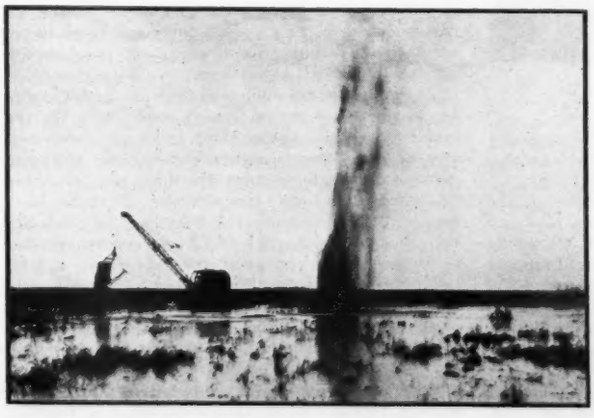
A directional "relief" well is being put down under the supervision of Eastman Oil Well Survey Co. to kill the blowout well, the source of the high-pressure gas which is charging the shallow surface sands. This well has reached 5,867 feet, or 561 feet short of its calculated goal of 6,428 feet. At 5,867 feet, the bottom is approximately 700 feet horizontally from the first hole. It is expected to reach its goal within the next week when water will be pumped through it into the sand.

Location of the relief well (No. 2-A Clara Driscoll Sevier) is 800 feet north, 2 degrees east of No. 2, the original blowout. The goal is a point near the first hole in a 60-foot section of high pressure gas sand topped by that well at 6,355 feet. Considering the deviation of the relief well, it should top the sand 71 feet lower than the first well, or at the calculated depth of 6,428 feet.

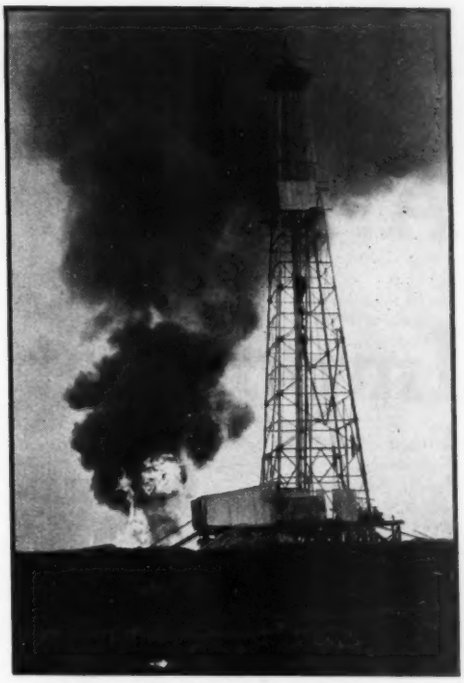
The first well, No. 2 Clara Driscoll Sevier, blew out November 9. It was drilling 4 feet in a sand topped at 6,834 feet, making the total depth 6,468 feet. Operators, however, do not believe this is the sand that has given the trouble. Since this well blew out, another well drilled by Conroe Drilling Co., about a half mile distant, has drilled through this 6,800-foot sand, finding only 4 feet. Unless this sand is much thicker in the Texon well it could not have shown such pressures as exist, it is believed. The 6,300-foot sand, on the other hand, gave evidence while being drilled of carrying very high gas pressures.

First sign of the blowout came when the gas started blowing out in the mud pits. The gas, it is believed, in blowing up from the 6,300-foot sand, channelled around the outside of the surface casing to near the surface and then broke out in the pits. The surface casing, a string of 10¾-inch pipe, was cemented at 504 feet, with open hole to bottom. The crater, started in the mud pits, quickly spread, engulfing the entire rig, a rack of 7-inch casing, and the boilers, which were 250 feet from the derrick. The crater now is 300 feet, or more, in diameter. The gas ignited soon after the blow-out. When the well started blowing it made only gas but with the continuation of its rampage it has been making considerable oil.

The relief well was started in December when the wild well failed to bridge and kill itself. At 400 feet a string of 13⅜-inch casing was cemented to the surface to protect the shallow surface sands. A second string of 10-inch casing was set at 1,458 feet, and cemented to the top. The shallow sands being charged with the high-pressure gas from the first well were negotiated without difficulty. Because of the hazard to a large rig, this much of the hole was drilled with a portable rig which could be moved off quickly in the event of trouble.



Dragline throwing up dikes around crater area



Relief well being drilled to kill cratered producer in background

After the heavy rig had been moved on, the 1,458-foot plug drilled and 191 feet of additional hole made, the survey company took over supervision of the drilling on January 2. C. R. Fritz, engineer for that company, was placed in charge. At 1,649 feet (191 feet below bottom of the surface casing), a multiple shot was made showing the bottom of the hole at that depth to be at a point 22 feet west and 1 foot 1 inch north of the surface location. Down to that point no attempt, other than good drilling practice, had been made to control the course of the hole.

To kick the hole off, a whipstock was run to that depth deflecting the hole at an angle of 1 degree 10 minutes. To build up the angle, a second whipstock was set at 1,672 feet, a third at 1,763 feet and a fourth at 1,854 feet. Only one other whipstock has been run since, this being at 5,225 feet for direction. An average angle of approximately 9 degrees is sought for the hole to reach its objective. The angle, however, has been as high as 12 degrees. Directional surveys have been made at intervals of 100 to 150 feet, but with the exception of the whipstocks listed the hole has been guided entirely by controlled drilling.

Shortly after directional drilling in the relief well was started early in January, the second blowout occurred. The high-pressure gas, evidently migrating through the shallow surface sands, broke through the surface about 250 feet north and a little east of the original blowout and between this well and the relief well. This formed a crater upwards of 200 feet in diameter.

Following this a similar blowout occurred about the same distance south and east of the original blowout, resulting in another active crater. It was not long before gas began blowing through the surface at another place about 1,200 feet southwest and about 250 feet northwest of Texon No. 1 Elliff, a producing oil well. With the spread of this crater, lease tanks for the Elliff well, only a short distance away, had to be dragged away quickly. Dikes were thrown around this crater and around the well to prevent spread of the water.

(Continued on Page 34)

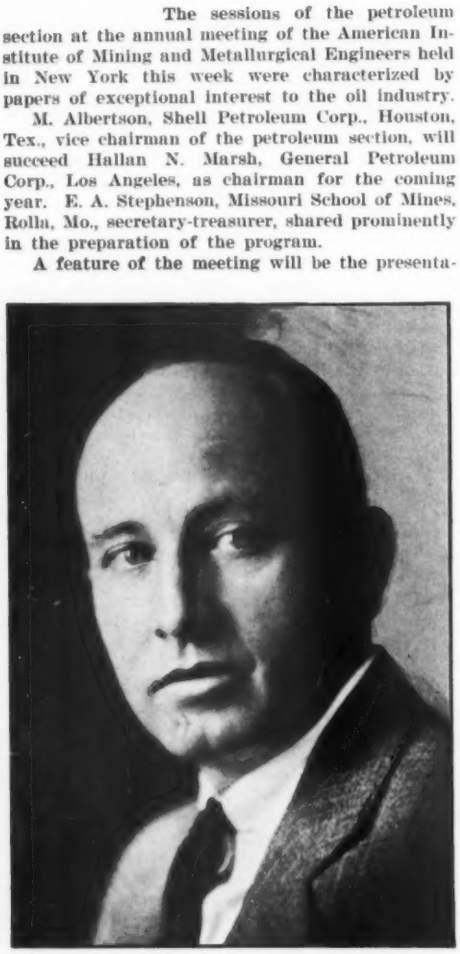
Petroleum Section of A.I.M.E. Discusses Important Topics

By H. STANLEY NORMAN

The sessions of the petroleum section at the annual meeting of the American Institute of Mining and Metallurgical Engineers held in New York this week were characterized by papers of exceptional interest to the oil industry.

M. Albertson, Shell Petroleum Corp., Houston, Tex., vice chairman of the petroleum section, will succeed Hallan N. Marsh, General Petroleum Corp., Los Angeles, as chairman for the coming year. E. A. Stephenson, Missouri School of Mines, Rolla, Mo., secretary-treasurer, shared prominently in the preparation of the program.

A feature of the meeting will be the presentation of the Anthony F. Lucas medal for distinguished service to J. Edgar Pew, vice president Sun Oil Co. (See photo and sketch on page 109).



M. ALBERTSON

Petroleum technologists from all parts of the United States and from foreign countries are spending three days in group sessions discussing engineering developments, production requirements and other phases of the industry.

At the stabilization session Thursday afternoon a round-table discussion is to follow presentation of Earl Oliver's technical publication, "Can the Capture Rule Be Rationalized?" in addition, the I.P.A.A. report on balancing supply with demand and regulating unnecessary drilling will be considered.

Presenting the results of studying more than 150 wells in California, Texas and Louisiana, H. C. Miller, E. S. Burnett and R. V. Higgins of the Bureau of Mines will show the relationship between fluid production and reservoir pressure decline. The equation developed by the Bureau of Mines engineers is to be presented as a means of comparing on a uniform basis the productivity of different wells producing from same reservoir.

M. Muskat, R. D. Wyckoff, H. G. Botset and M. W. Meres of Gulf Oil Corp., are authors of a paper on "Flow of Gas-Liquid Mixtures Through Sands."

Acid treatment of wells is to be discussed by P. E. Fitzgerald of Dowell, Inc. J. E. Brantly, president of the Drilling & Exploration Co., Inc., of Los Angeles, will discuss improvements in drilling equipment.

DEVELOPMENTS IN MARKETING

In the petroleum economics session, "Developments in Petroleum Marketing" were discussed by Sidney A. Swensrud, Standard Oil Co. of Ohio. He said there are four essential marketing questions before the oil industry: Who shall do the retail marketing? Who shall provide the capital facilities for marketing? What shall the gasoline price structure be? How much rationalization machinery in the way of codes, legislation, and the like shall be had?

Many people seem to think that so far as retailing is concerned, the question of who shall do the marketing has been settled finally and completely by the "Iowa plan" but he has yet to be shown.

One reason for leasing all company stations is the desire to get increased gallonage into company stations through the more personal efforts and greater price flexibility characteristic of individual dealer operations.

It was perhaps pertinent to examine whether the major supplying companies can thus easily shed the responsibility for dealer margins and can divorce themselves from all interests in and concern with retailing and retail prices. He does not believe they can.

"Certainly the assumption that the dealer under the competitive system can in some way fix the retail price to his own liking involves a new concept of price determination, namely that the competitive forces heretofore operating to determine retail prices no longer are effective. Perhaps, however, this misconstrues the question, for probably it is not so much that the major companies believe the dealers can arbitrarily determine the retail price level as that the dealers have previously believed that the major companies could do this and have insisted upon holding them responsible for retail price levels, hence that it is better that the dealers should be allowed to find out for themselves the reality of the competitive retail price making forces. When this conclusion is reached it is hard to see how the suppliers will have escaped from any responsibility they previously appeared to have for the width of dealer margins, because they will still be establishing the price to dealers and the difference between this and the actual retail prices will be the dealer margin. Furthermore, if experience in other lines of retailing is any index, retail dealers will be urging upon their suppliers efforts to maintain resale prices of their respective brands, so as to protect one retailer against the price cutting of other marketers handling the same kind of merchandise.

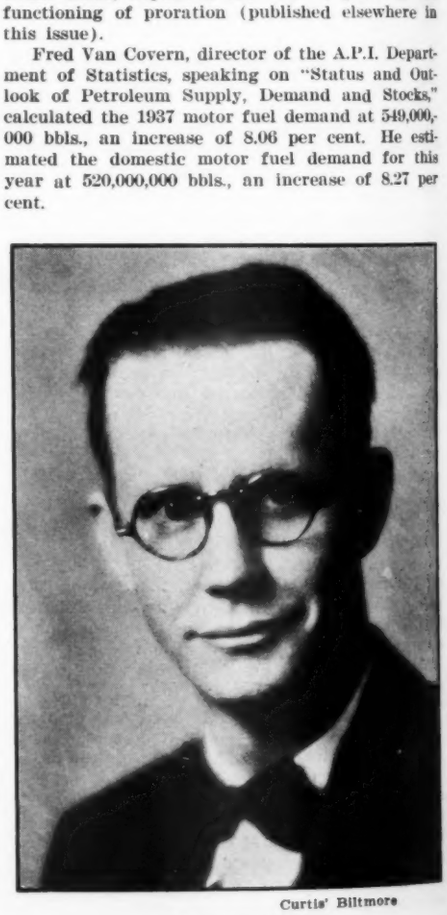
On the question who shall supply the capital facilities for marketing, he said there is as yet no indication that major companies are withdrawing from the ownership of stations, but instead are continuing to build more stations. Nor did he see any evidence that the major companies are supplying any smaller proportion of the capital put into marketing expansion than they formerly did. If anything, the proportion as well as the amount supplied by major companies probably is increasing.

Considering the question of what is a proper differential between the price of gasoline to the jobber and the price to the dealer, he thinks it seems fair to conclude that a well conducted jobber enterprise, handling a brand of good quality and acceptance and taking reasonable advantage of opportunities for saving, should be able to perform the jobbing function and have a reasonable profit left out of a margin of 2 cents a gallon between the dealer and jobber price.

Another subject about which he found much conflicting thought is the relationships which should exist between dealer and jobber prices and the prices to various types of consumers taking delivery by tank truck or transport. It is difficult, however, he said, to see how oil companies can escape the necessity of having a price structure for consumers taking tank truck deliveries which, depending on quantity and method of delivery involved, will include prices ranging from somewhere near the tankcar or jobber price up to or above the dealer price.

Joseph E. Pogue, vice president of Chase National Bank, explained the role of price in the functioning of proration (published elsewhere in this issue).

Fred Van Covern, director of the A.P.I. Department of Statistics, speaking on "Status and Outlook of Petroleum Supply, Demand and Stocks," calculated the 1937 motor fuel demand at 549,000,000 bbls., an increase of 8.06 per cent. He estimated the domestic motor fuel demand for this year at 520,000,000 bbls., an increase of 8.27 per cent.



Curtis' Biltmore

HALLAN N. MARSH

The Role of Price in the Functioning of Proration

By JOSEPH E. POGUE
Vice President, The Chase National Bank, New York

Price is a complicated concept, for price is both a cause and an effect. This reciprocal aspect is commonly overlooked and the oversight is the source of many economic maladjustments. Price is the resultant of the ratio between supply and demand, but it differs from a mathematical concept of a proportion, by itself constituting an economic force which continuously alters the elements that determine the relationship. Price, therefore, is not merely the outcome of other forces but is in its own right one of the most powerful of economic agents. Price accordingly does not play a passive role; nor can it be sterilized or rendered inactive. In consequence, price cannot be fixed or at least kept fixed, except by the elimination of all freedom of choice on the part of producers and consumers.

A primary objective of all economic activity is equilibrium. The same is true of a unit of economic activity, the single industry. The plane upon which equilibrium centers may shift in the course of time, but equilibrium itself is the point of departure and the point of return. If an industry is in equilibrium, that industry is operating effectively. The motivating forces of an industry —profits or the common good—are not to be confused with the prerequisite of equilibrium, but this mistake is often made. The producer is dominated by the profit motive; the consumer, or his collective representative, by the general welfare motive. No one is the advocate for equilibrium; that status is supposed to be arrived at automatically. If the forces of competition are perfectly free, such is the tendency.

For the purposes of this analysis, equilibrium needs to be broadly defined and is conceived to involve: (a) Balance between supply and demand; (b) internal equipoise amongst the elements within an industry; and (c) symmetry in respect to the whole economy. This definition implies flexibility and ease of adjustment; a ready accommodation to change. Equilibrium does not postulate profits or nonprofits, social objectives or the lack of them. A decadent industry may be in equilibrium, but nonprofitable; such an industry cannot be made profitable except through subsidy, which is a violation of equilibrium.

A. I. M. E.—Before annual meeting, New York, Feb., 1937

MAINTAINING EQUILIBRIUM

What are the means for maintaining equilibrium? In a freely competitive economy, there is only one: price. In a semicompetitive economy, such as that under which we are now living, there are two: price and regulation of supply[1]. In an activity such as the American petroleum industry, in which competition is highly developed but yet is modified by proration in the production of crude oil, our problem is to determine the proper function of price: to what extent its status has been modified by the introduction of retarded supply into the equation. For this purpose, we need a clear understanding of the nature of proration.

Proration is itself a complicated concept, because it is a compound or dual affair. It is at once a measure for minimizing waste and a regulator of supply, or a production-control. Its legal authority is derived from its conservation function; its production-control aspect is a pragmatic adjustment to the exigencies of the occasion. The technical and human factors involved require, or have seemed to require, a balancing of supply and demand to achieve a minimizing of waste. Theoretically the conservation aspect could function alone, through the expedient of limiting each field to its optimum rate, competition freely ruling in all other respects; but practically proration has developed and become institutionalized with the added accompaniment of such regulation of supply as to balance supply and demand. It may be perceived that this appended element is a resultant of potential overproduction, perhaps merely a temporary or recurring item in the mechanism; one that will be minimized or even eliminated in event of demand exceeding the efficient rate of production of the resource. Thus proration may be expected to vary in structure or degree of application at different phases of the oil cycle.

Proration is not thought to be an invention or device planned to meet a specific set of conditions, but an evolutionary mechanism born of necessity. It came into existence in institutionalized form when the rule of capture was rendered untenable by accumulating overproduction under the stimulous of advancing technology in oil finding and production. Once the momentum of supply came to exceed the capacity of demand to absorb the output, the stimulus of the rule of capture became insupportable and suffered modification. This modification was effected by means of a regulatory mechanism which we call proration. In short, under the conditions outlined, price alone proved incapable of maintaining equilibrium and the institution of proration arose to help meet the issue. The production-control aspect of proration is necessary, or at least convenient, only in a supply-dominated cycle; the conservation aspect of proration is desirable not only there but in a demand-dominated phase as well. The lasting achievement of proration is its conservation function, which has become thoroughly grounded in practice and procedure and basically integrated into the economic structure of the industry.

FUNCTIONS OF PRICE

The principal functions of price, in a freely competitive industry, are: (a) To equate supply and demand by retarding or accelerating the rate of change in each of these two elements; (b) to allocate the component parts of supply and demand to one another; (c) to regulate the movement of capital into and out of the industry.

Proration, operating as a combined production-control and conservation measure, serves to relieve price of part of its functional responsibility, but by no means supplants price in its essential role. Price is merely modified as an instrumentality for the maintenance of equilibrium; and the degree of alteration appears upon careful analysis to be superficial rather than fundamental.

Price, in the presence of proration, is relieved of the responsibility of equating supply and demand, and to some degree of allocating the component parts of supply and demand to one another. Price, however, is left unmodified in its effect upon drilling and search, upon the movements of capital involved in these activities, upon demand and the attraction or repulsion of buying power. Therefore, with proration operating, price continues as an effective causal agent, but with its power rendered less immediate. Thus a rigidity is introduced into the price structure, because the functional incidence of price on the supply side of the equation is moved from the surface to a deeper level, involving a greater lapse of time between cause and effect; but the influence of price is thereby unbroken; merely its time gradient is altered. This deepening of the plane upon which price operates is apt to create the belief that price has been divorced from its usual economic consequences, but as a matter of fact price will continue to manifest itself functionally but more slowly. For this reason any attempt to utilize the machinery of proration for price-fixing purposes (i. e. for creating price levels out of line with prevailing economic conditions) is doomed to failure.

JOSEPH E. POGUE

PRICE MECHANISM

The mechanism used to arrive at the prevailing price for crude petroleum is more or less unique among commodities. The existence of integrated pipe line systems renders central markets impracticable and in effect brings the crude oil market to the innumerable points of production. While the price level must be determined in the long run by the economic forces at work, the buyers of crude oil have the responsibility of nom-

inating the prevailing price level, and of naming a higher or lower bid price at such periods as conditions seem to call for a change. When one important buyer posts a new price, competition tends to bring about conformance on the part of all other buyers, provided the new bid is soundly conceived, otherwise the initial change turns out to be a false move. In this way the price of crude oil is arrived at by a process of trial and error, which is the method of central markets where buyers and sellers come together in innumerable small transactions. The nature of the procedure, however, tends to create the illusion that prices are established by buyers, whereas they are only named by buyers; and this view is apt to be heightened by tendencies to personify economic forces especially in an industry so individualistic and personal as that of petroleum.

If it be accepted that industrial equilibrium is a sine qua non and that a primary purpose of price is to contribute to that end, what then should be the reasoning of the buyer when he names a price? The following principles may be listed for consideration:

1. The price should be designed to bring forth the supply properly needed;

2. The price should provide the degree of stimulus for exploration that seems appropriate in light of the prevailing discovery rate, potential production, and oils in storage;

3. The price should not normally be out of line with the realization obtainable from a barrel of crude;

4. The price should not be such as improperly to retard or accelerate demand, the meaning of "improperly" varying at different phases of the cycle;

5. The price should bear such relation to cost as to promise a proper flow of capital to and from the industry[2].

It will be immediately observed that the criteria outlined are general and are not subject to precise determination. Furthermore, several of them involve future considerations. Quite so; and this is the reason why price nominations must be experimental and the price structure itself left free to back and fill to arrive at an equilibrium level. It will be observed, further, that these criteria do not differ substantially from those that would appear desirable under nonproration. True, again, but the following important qualification should be held in mind. Proration has contributed a rigidity to the price structure and an attitude of mind regarding its alteration, that are working against the functional manifestation of price; and this development presents a two-fold liability. Firstly, in the event of over-discovery, the way is left open for the development of sustained drilling campaigns leading to the loss of equilibrium. Secondly, in the event of underdiscovery or of inflationary demand, the way is left open for the inhibition of the price changes needed to facilitate transition to a new plane of equilibrium. In short, the petroleum industry, now as well as formerly, stands in need of a flexible price structure attuned to directing the forces of price to the safeguarding of equilibrium.

[1]In the monetary field some experiments in the regulation of demand are being witnessed.

[2]The fulfillment of these criteria may fail to insure an equilibrium rate of drilling. To obtain balance in respect to this item, the machinery of proration should be so directed as to normalize, rather than overstimulate, the drilling of known fields. See the author's "The Role of Drilling in the Functioning of Proration," Petroleum Development and Technology in 1936, pages 195-201.

Scouts Annual Meeting

The annual convention of the National Oil Scouts Association will be held in Dallas, Tex., June 25-26, it was decided by the executive committee meeting at Dallas, February 13. Harry Leyendecker, chief scout, Tide Water Oil Co., Houston, Tex., chairman of the executive committee, presided.

Claude Strahan, Atlantic Refining Co., Shreveport, La., is president of the association; Maurice Meisse, Phillips Petroleum Co., Ada, Okla., first vice president; Paul A. Barenkamp, Sun Oil Co., second vice president, and Howard Boyd, chief scout, Magnolia Petroleum Co., Dallas, secretary.

Petroleum

World's Oil Consumption Up 143,000,000 Bbls.

By V. R. GARFIAS and R. V. WHETSEL
Cities Service Co.

***A. I. M. E.*—Before annual meeting, New York, Feb., 1937**

It is estimated that world consumption of petroleum, its products and related fuels during 1936 reached an all-time peak of 1,757,778,000 bbls., an increase of 143,000,000 bbls. over 1935.

World output of petroleum and related fuels exceeded demand by 92,510,000 bbls. during the year, as compared to an excess output of 88,000,000 bbls. during 1935. Production within the United States exceeded domestic demand by approximately 51,000,000 bbls. in 1936, as compared to an excess output of 53,000,000 bbls. in the previous year. Outside the United States, production exceeded demand by 41,510,000 bbls. in 1936 and by 35,000,000 bbls. in 1935, indicating that foreign output is making no progress toward curtailment in line with demand.

Stocks in the United States were reduced by 23,400,000 bbls. in 1936, compared to 22,447,000 bbls. in the previous year. In the rest of the world excess output over demand combined with the excess of imports over exports from the United States indicates an unfavorable balance of approximately 116,000,000 bbls. during 1936. Unquestionably a large portion of this balance represents an increase of stocks in foreign countries, but a part is also due to imperfect consumption figures and the impossibility of obtaining accurate production statistics from such countries as Russia.

The petroleum industry within the United States showed some improvement during 1936. Withdrawals from storage, however, continue to be made possible by the favorable balance of exports over imports, but it must be emphasized that such favorable balance did not increase during 1936. In the world outside the United States, the industry despite increased consumption continued to increase stocks rapidly, indicating the approaching necessity of the curtailment of foreign output and the possibility that exports from the United States may continue to decline.

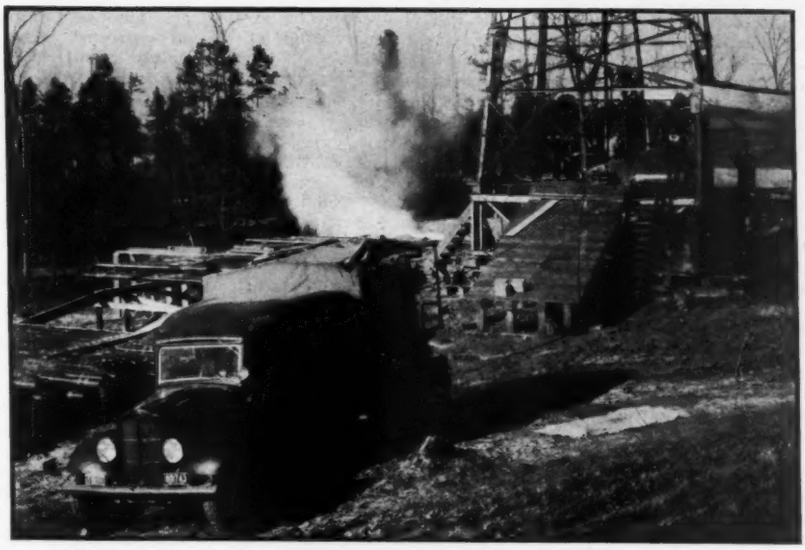
WORLD CONSUMPTION—1936
(Thousands of Barrels)

	Motor fuel	Kerosene	Gas and fuel oil	Lubricants	Miscellaneous	Total
United States	482,000	50,000	405,000	22,500	130,500	1,090,000
Russia	14,800	30,400	63,200	8,500	17,800	134,700
United Kingdom	38,500	6,400	27,000	2,900	4,100	78,900
France	23,000	1,490	13,000	1,640	3,200	42,330
Canada	17,500	1,900	15,600	1,060	2,000	38,150
Germany	17,000	990	12,200	4,020	2,900	37,110
Japan	8,100	1,500	14,750	1,900	1,900	28,150
Argentina	6,200	1,320	16,400	450	890	25,260
Italy	4,500	1,480	11,000	720	2,200	19,900
Mexico	2,540	620	11,500	170	2,500	17,330
Rumania	790	1,240	11,700	220	2,000	15,950
Netherlands West Indies	180	30	13,200	35	3,820	17,265
British India	2,480	6,500	3,800	990	1,300	15,070
Australia	6,800	1,170	3,340	460	670	12,440
Netherlands East Indies	1,490	2,000	5,100	160	1,240	9,990
The Netherlands	3,480	1,830	2,400	380	890	8,980
Venezuela	590	30	1,200	35	5,900	7,755
Sweden	3,480	890	2,150	360	600	7,480
China	990	2,460	2,800	260	340	6,850
Brazil	2,510	750	3,280	180	70	6,790
Spain	2,800	190	1,650	100	210	4,950
Iran	430	980	3,200	200	1,500	6,310
Egypt	540	2,000	2,890	180	190	5,800
Union of South Africa	3,100	570	1,140	200	200	5,210
Denmark	2,200	560	1,640	160	290	4,850
Belgium	2,520	210	1,190	220	420	4,560
Cuba	490	70	3,750	40	110	4,460
Trinidad	105	70	3,800	30	290	4,295
Philippine Islands	1,000	580	2,400	80	130	4,190
Norway	1,190	305	1,980	95	110	3,680
Switzerland	1,830	190	1,150	160	40	3,370
Chile	650	60	2,750	75	40	3,575
New Zealand	1,990	160	1,240	80	115	3,585
Poland	970	1,010	600	400	300	3,280
Czechoslovakia	1,800	440	740	220	180	3,380
Iraq	310	220	2,080	55	690	3,355
British Malay	580	320	2,060	70	190	3,220
Hawaiian Islands	980	140	1,990	65	70	3,245
Austria	910	290	1,200	145	140	2,685
Uruguay	630	60	1,800	40	40	2,570
Panama Canal zone	110	20	2,300	20	40	2,500
Algeria	1,300	400	340	110	130	2,280
Irish Free State	1,110	520	260	70	200	2,160
Peru	420	430	760	60	300	1,970
Greece	370	150	1,060	60	50	1,690
Porto Rico	490	70	990	35	40	1,625
Portugal	600	410	440	40	60	1,550
Hungary	420	400	450	90	100	1,460
Finland	580	360	140	95	95	1,270
French Morocco	770	95	110	40	130	1,145
Others	6,700	5,550	23,200	1,040	2,670	39,160
Total 1936	674,825	129,930	707,920	51,215	193,890	1,757,780
Total 1935	620,092	124,442	651,382	46,902	171,657	1,614,475
Total 1934	586,126	120,134	602,292	43,829	154,818	1,507,599

All 1936 figures estimated from data available to December 1.
Consumption figures include crude consumed as such, all its products and related fuels such as benzol, natural gasoline, alcohol used as motor fuel. Oil delivered to ships' bunkers is included in consumption of country where deliveries are made.

Proper Gas-Oil Ratio Factor in Allocating of Production

By MITCHELL TUCKER



It is the practice at Rodessa to make electrical survey of hole before determining casing seat, thereby effecting the lowest gas-oil ratio possible.—(Le Doux, photo, Shreveport)

SHREVEPORT, La.—The Rodessa field has provided the industry with a very excellent example of how the injection of a proper gas-oil ratio factor in the allocation of production will result in conservation of natural gas and reservoir energy.

Just a few months ago, while the allowables for that field were upon a per-well basis, the daily gas wastage at Rodessa was estimated above 000,000,000 feet, or half the daily domestic consumption of the United States. On January 1, 1937, the field allowable was reallocated upon a 50 per cent acreage and 50 per cent bottom-hole pressure basis, with a gas limit factor of 2,000 feet of gas to 1 bbl. of oil. In this same order all wells termed "gas-distillate wells" were reclassified as gas wells. As a result, the gas withdrawal has been reduced about 90 per cent, and the wastage to practically nothing.

The use of the gas-oil ratio factor in the allocation of production has been suggested for many fields in the past, and increasing interest is being shown in its use. The Sub-Committee on Conservation Laws of the Interstate Compact Commission has given a great deal of consideration to the proper application of this factor, and has expressed the opinion that gas wastage in combination oil-gas well fields is perhaps the greatest problem of conservation before state regulatory bodies and producers of oil and gas in such fields. The Stabilization Committee of the American Institute of Mining and Metallurgical Engineers is giving consideration to this subject and their suggestions will probably be very beneficial to those trying to find a proper and acceptable solution to unnecessary gas wastage.

The A.P.I. Topical Committee on Allocation of Production has advanced several proration methods which would serve to effect a reduction in the ratio of gas to oil by placing a premium allowable upon wells capable of producing with low ratios. The most notable of these is the application of volumetric withdrawal limitation to the allocation of production. Quoting from the 1934 annual volume "Drilling and Production Practices," this proposed method of proration is described as follows:

"This principle is that each operator should be allowed his just share of the contents of the reservoir, but gas and water, as well as oil, must be considered in computing the volume of reservoir fluids withdrawn. Thus, each property would be assigned a certain volumetric allowable, which would be the combined volume of oil, water, and gas—corrected to the pressure and temperature of the reservoir—which that property would be allowed to produce. Those who were so fortunate or ingenious as to produce no water and the minimum amount of gas would obtain an oil allowable equal to their volumetric allowable in order to determine their oil allowable."

The use of the gas limit factor in the actual allocation of per well allowables has been applied by Louisiana for the first time at Rodessa (as explained in Figure 1). It does not actually cause a reduction in gas-oil ratio itself, but does eliminate wastage of gas by cutting oil allowables with resultant decrease in gas withdrawals. The Texas order that closely followed for that side of the Rodessa field was similar in all essential particulars, and differed slightly from that formerly used in other fields in that state.

The four essentials to a proper allocation plan have often been listed as, equity, conservation, legality, and practicability.

Equity between tracts in prorated pools was described in the same A.P.I. report as, "procured by assigning to each tract an allowable which bears the same relationship to the total allowable of the pool as the remaining recoverable reserves under that tract bear to the recoverable reserves of the pool as a whole." In reality, this means a recognition of property rights to oil in place, and through the application of a 50 per cent acreage factor this has been accomplished in the bi-state field. Obviously, the gas limit factor bears a direct relation to structural position (or amount of recoverable oil under tracts with varying structural position) so its application here does seem to approach "equity" closely.

That the gas limit in Rodessa has resulted in real conservation is borne out by the fact that the gas wastage has been reduced about 90 per cent.

Louisiana's proration law grants the Commissioner of Conservation power to apply the gas limit factor in any manner he sees fit, and the legality of this delegated discretionary power has not yet been questioned in court. Its application in Texas seems well established.

The practicability of the gas limit factor is indicated when it is recognized that the straight enforcement of a specific ratio in the field, say 2,000 to 1, would have meant the shutting down of many Rodessa wells, and the gas limit factor proved itself a practical medium for keeping up the field's oil production and at the same time preventing wastage.

Cooperative agreements for the maintenance of proper ratios have been tried in many fields with varying degrees of success. Restrictions from state regulatory bodies have been made with the same results. On account of the division of lease ownership throughout varying positions on structure, where the interest of a few may be at the expense of many, or vice versa, a highly controversial problem is presented on which no hope of agreement can be had so long as the rule of capture is the controlling factor.

Structures are discovered each year in which high gas-oil ratio wells offer little return to their

FIG. 1—MANNER OF APPLYING "GAS LIMIT" FACTOR TO THE ALLOCATION OF PRODUCTION ON LOUISIANA SIDE OF RODESSA FIELD

50,000 bbls. daily allowable February
- 50 per cent acreage—5,780 acres—Per acre allowable.....5.7083
- 50 per cent B.H.P.—449,860 pounds
- Total B.H.P.—Per pound B.H.P. allowable ..... .0734

Well	B.H.P.	Acres	Base allowable: B.H.P. (bbls.)	Base allowable: Acreage (bbls.)	Base allowable: Total (bbls.)	Cu. ft. gas limit*	G/O ratio state test	Allowed production after application of gas limit factor (bbls.)
A	1720	20	126.25	114.16	240.41	480,820	2,000	240.4100
B	1624	1†	119.20	28.54	147.74	275,480	5,000	55.0960
C	1710	40	125.51	228.33	353.84	707,680	10,000	70.7680

*2,000 feet to each barrel oil granted on total base allowable. †Minimum of 5 acres granted all wells.

Note—Obviously, after the gas limit factor has been applied, the allowable will not equal the 50,000 bbls. granted by the state. To correct for this, a new base allowable figure is determined by the trial and error method that will most closely approach the 50,000-bbl. figure after injection of the gas limit factor.

All gas-distillate wells reclassified as gas wells. Any gas well located upon 5-acre tract or less is allowed to produce daily 9 per cent of its potential flow, and this scale graduates up to the maximum of one well to 160 acres which is permitted to produce 24 per cent of its daily maximum flow.

owners on account of having no gas market available, or, if gas market is available, the price is so low and demand so small that gas sales become a very small part of necessary income to pay out deep wells, causing producers to contend for the right to flow all the oil such wells will produce as their oil allowable to secure some amoritization of their investment. From a conservation standpoint, this results in a great wastage of gas and causes underground waste of oil by withdrawing gas so rapidly that the reduced pressure above the oil permits it to enter previously unsaturated portions of the reservoir rock where a large part of of the oil is not recoverable. Also, water coning or edge water encroachment is hastened.

Reduction of gas wastage can be accomplished by drastic orders of regulatory agencies, but the enforcement of such methods of conservation is highly controversial and unpopular. The closing of high gas-oil ratio wells by arbitrary action ends their waste, of course, but this practice permits the shutin pressure to benefit others who own wells with lower gas-oil ratios, and uses the gas pressure under the lands of those with such high gas-oil ratio to aid in producing more oil for their competitors.

As is always the case in seeking a cure for any of the evils of the rule of capture, unitization or community operation may be advanced as the scientific solution to the problem. Experience has shown, however, that many obstacles lie in the way of reaching agreeable terms of unitization.

ELIMINATING WASTAGE

In the absence of cooperative effort, whether effected by agreement or unit contract, the steps recently taken by Louisiana and Texas in placing the gas limit factor in the allocation of production in the bi-state Rodessa pool has proved to be a most effective way of eliminating gas wastage, and preserving, so far as possible, equity for each operator.

Figure 1 shows diagrammatically just how the distribution of the 50,000 bbls. daily February allowable is allocated to the individual oil wells on the Louisiana side of the field. Manner of distribution is the same on the Texas side, except that the maximum acreage which may be allotted to any one well is 20 acres in Texas and 40 acres in Louisiana.

Section VII of Louisiana Department of Conservation Order No. 7 invokes the gas limit factor, and reads as follows:

"The gas-oil ratio of each oil well shall be kept as low as possible, but in no event shall an oil well be permitted to produce gas in excess of 2,000 feet per barrel of oil produced, provided, however, that if any well which, by reason of its location or manner of completion, produces oil with a gas-oil ratio in excess of that authorized, same shall be allowed to produce daily a total volume of gas equivalent to the volume obtained by multiplying the daily oil allowable of said well, (base allowable), provided the resultant gas-oil ratio does not exceed that prescribed in Section XIV."

This latter section provides for the reclassification of all wells as gas wells that waste, burn, or blow into the air an amount of gas of more value at $0.03 per thousand feet than the market value of the oil recovered. The order further provides for monthly gas-oil ratio tests on wells having ratios in excess of 2,000 feet per barrel.

The Texas order, included in the Oil and Gas Docket No. 120, was essentially the same and reads as follows:

"Any well producing with a gas-oil ratio in excess of 2,000 to 1 shall be allowed to produce daily only a total volume of gas equivalent to the volume obtained by multiplying the daily base oil allowable (50 per cent acreage and 50 per cent B.H.P.) of said well by 2,000 feet. This amount of gas will be known as "gas limit" for oil wells."

VOLUMETRIC WITHDRAWAL

Although a restriction upon the volumetric withdrawal of gas, oil and water has been placed upon many fields in Texas previously, including Conroe, Big Lake, Cayuga, and others, its application differs somewhat from the gas limit factor as first applied at Rodessa. Formerly it has been the practice to establish the peak gas withdrawal allowable by multiplying the state-wide permitted ratio of 2,000 to 1 by the highest well allowable in the field, and then allow no well with smaller oil allowable to produce more gas daily than the 2,000 to 1 ratio of the largest oil well, which always resulted in a further reduction in oil allowables for the high gas-oil ratio wells. As applied at Rodessa, the gas limit factor, imposed upon all base allowables calculated 50 per cent acreage and 50 per cent bottom-hole pressure, is without regard to the highest volumetric withdrawal permitted at any one particular well. The restriction of gas wastage in combination oil-gas well fields of Texas comes under Rule 6 of their "Conservation Rules and Regulations of State-Wide Application in Texas," reading as follows:

"Effective December 15, 1933, no well producing both oil and gas shall be permitted to produce gas in excess of 2,000 feet per barrel of oil produced unless specially authorized by an order of the Railroad Commission to vary therefrom. The gas-oil ratio shall be the relationship of the total volume of oil in barrels, produced from any specific well. Effective at once, any well, which by reason of its location or mode of completion is producing with a gas-oil ratio in excess of that authorized by the Railroad Commission, shall be allowed to produce daily a total volume of gas equivalent to that of any other well producing from the same common source within the limits set by the commission."

This general rule concerned any and all combination fields in Texas, and, of course, many exceptions (both increases and decreases) have been granted to care for practically every known type of oil field contained within that great producing state. Cooperative agreements between state regulatory bodies and operators have permitted low ratios in many fields, the Yates field offering perhaps the best example. In the Panhandle and some Southwest Texas fields ratios of as high as 10,000 to 1 are permitted, where oil production could not be obtained at lower figures.

In Oklahoma the law does not cover gas-oil ratio for producing wells but the conservation officer for the Oklahoma Corporation Commission has at various times recognized the advisability of limiting gas ratio and by agreement of the various producers in the field in question there have been orders issued in which the gas-oil ratio was a factor considered in prorating the field.

In Oklahoma City field in particular effort has been made from time to time to control gas-oil ratio and at one time this limit was as high as 20,000 to 1, but it has now been reduced to 7,500 to 1 and is so carried in current market demand orders issued by the conservation officer of the Corporation Commission. In the Billings pool the commission recommended 3,000 to 1 gas-oil ratio but did not issued orders specifically limiting production to that amount.

The Corporation Commission of Oklahoma is specifically authorized by law to prevent waste either above or below ground and under this law it is possible for the conservation officer to write gas-oil ratio orders but it has not been done in the past except after the operators in the field had first agreed that a certain gas-oil ratio was best suited to the conditions prevailing in that field and this ratio has been subject to changes as conditions required.

The Kansas State Corporation Commission has never issued specific orders relative to the establishment of gas-oil ratios in any combination oil-gas well field.

NEW MEXICO

The New Mexico Commission has never actually used gas-oil ratios as a factor in proration. Cooperative agreement of producing companies, through the state proration office and engineering committee, has caused a great deal of remedial work to be done in order to conserve gas in the Hobbs field, and as a result the overall gas-oil ratio at Hobbs has been kept down to around 1,500 feet per barrel of oil produced. Here is provided, perhaps, the best example of what may be accomplished through complete cooperation between producing companies and state regulatory bodies.

The California statute against wastage of gas to the air is vigorously applied. In any field where excessive gas is being wasted, operators are hailed into court and given a temporary restraining order, calling for a specified amount of gas to be produced from the field and no more. This forces the operators to divide the gas allowable among themselves upon any mutually acceptable basis, which they are forced to adhere to from then on, the schedule of their agreement virtually constituting a stipulation of the court, which the court includes in its injunction following a hearing a few days after the order has been in effect.

Although the gas-oil factor has never actually been applied in California, an approach to it was in effect for some time in the North Belridge field. Here the principal of volumetric withdrawal was applied, counting 1,000 feet of gas as equivalent to 1 bbl. of oil. An oil quota and a gas quota were assigned the field, and these quotas were divided on a straight percentage basis, predicated on the acreage owned by the respective operators. An operator was then eligible to produce either his oil or gas quota as long as the total quota assigned him was not exceeded. In other words, if an operator had a high gas-oil ratio well, he could calculate his combined quota of gas and oil and produce the amount mostly in the form of gas with very little oil; or if the operator has a low gas-oil ratio well, naturally he could produce the bulk of his combined quota in oil and gas in the form of oil, with a smaller proportionate amount of gas than the other less fortunate operator. Objections to this manner of allocation came, of course, from those operators having high ratio properties, and the system has not been rigorously applied lately.

BARNSDALL OFFICERS MEET IN TULSA

L. D. Messner, treasurer; James A. Dunn, vice president; E. B. Reeser, president; William Dewey Loucks, chairman of board, New York; D. L. Frawley, vice president, Pittsburgh, Pa.; R. A. Broomfield, executive vice president, Los Angeles, Calif.; D. R. Snow, vice president, Tulsa

Continuance of Connally Law Is Endorsed at Hearings

By HENRY D. RALPH

WASHINGTON, D. C., Feb. 15.—Strong support for making the hot oil law permanent was evident as hearings on the Connally bill opened, with federal and state officials backing the measure and the committee showing little disposition to be swayed by opposition arguments.

Conservation of oil reserves effected by the Connally act has enabled the ultimate production of the East Texas field to be increased 2,000,000,000 bbls., according to the testimony given today by Ernest O. Thompson, member of the Railroad Commission of Texas.

"The East Texas field would have blown its head off probably within 9 or 10 days under the old flush method of production," said Thompson.

"Under the present quota system the best wells in the field are allowed a 30-bbl. production and the least productive are allowed 20 bbls. daily."

Colonel Thompson said the East Texas field has a potential of 13,000,000 bbls. per day if allowed to flow unchecked and to make the comparison more striking showed that the five next largest fields in the United States combined would produce no more than this field.

Telegrams from Governor E. W. Marland of Oklahoma and Reford Bond of the Oklahoma Corporation Commission gave unequivocal support to enacting the Connally bill without amendment, and to make the present act permanent.

William McCraw, attorney general of Texas, told the committee: "I am certain that congress through this act has given the state an unparalleled opportunity to regulate its own oil resources. It has given Texas the opportunity to be on the soundest footing since oil was discovered in the state."

Charles F. Roeser, president of the Independent Petroleum Association of America, endorsing the bill said: "I concur fully in the statement by Colonel Thompson that the ultimate yield from the East Texas field has been doubled by the enactment of the Connally act which strengthened state conservation measures."

In reply to Chairman Connally's question as to whether underground reserves are better than aboveground storage in tanks, Mr. Roeser said: "Yes, there shouldn't be a barrel of unneeded oil brought above the ground. In aboveground storage the volatile elements escape and the oil becomes heavy and less valuable because of this fact."

Lone dissenting opinion on the passage of the act was voiced by R. M. McNeeley representing the Wholesale Petroleum Marketers Association. His contention was that under the allowable quotas of the states there is not enough oil being produced to meet demands.

Chairman Connally said: "Then isn't your quarrel with the state laws? In other words, the only way you could have benefited from conditions existing before the passage of the Connally act was by purchase of illegal oil, or hot oil. You don't mean to say that you favor the hot oil violators?"

"Oh no," McNeeley said. "I merely mean that we can't purchase in the competitive field at the present prices."

"Can't you buy oil at the same prices that anybody else can?" shot Connally.

"I expect I can," replied the witness.

"Then from a competitive standpoint you're on the same level as everybody else aren't you?"

"Yes," McNeeley answered.

"That will be all," said Connally excusing the witness.

The Connally law should be made permanent without change or modification, Secretary Ickes said. "The principal merit of the Connally act," he said, "is that it supports state oil and gas conservation laws and thereby increases their effectiveness. The act, however, has contributed also to the stability of the retail markets by eliminating the destructive influence of contraband gasoline upon such markets." Basing his testimony on the premise that the first consideration of the United States should be that the oil reserves of the country are limited and that oil is an irreplaceable resource, Secretary Ickes advocated a more extensive control of the nation's oil than is exercised by the Connally act.

"I suggest," said the secretary in this connection, "that the congress and the executive branch might well address themselves to the question as to how, in addition to the permanent enactment of the Connally act, the federal government might aid the oil-producing states to husband the oil resources of America."

Stressed in his statement were the advisability and necessity of a plan of control and the low cost of operation of the present plan, which he estimated at being about one-tenth of a cent per barrel for field inspection, record keeping, and examination.

Testimony was given by Charles R. Francis, chairman of the mineral law division of the American Bar Association; E. B. Swanson, associate director of the petroleum conservation division of the department of the interior; and Paul Hadlick, of the National Oil Marketers Association.

Mr. Francis introduced a resolution adopted by the house of delegates of the American Bar Association, which is the governing body of that organization, unanimously adopting a motion favoring the extension of the Connally act.

Mr. Swanson gave testimony in regard to the purpose of the group purchasing of "distress" gasoline by companies entering into agreement with the petroleum division of interior.

"There was a two-fold purpose in this buying," said Mr. Swanson. "One was to curb the threat of excess gasoline breaking the crude oil price so much that the small crude oil producer and refiner couldn't meet costs; the other was to establish the proper ratio between crude oil and gasoline of 18½ to 1. The two methods of doing this are to lower crudes to meet the gasoline prices, which would make the price of crude so low that small producers couldn't meet costs; and the other

"HOT" OIL TOPIC—Senator Connally gives Secretary Ickes the Texas viewpoint.—(Acme)

is to raise crude and maintain the 18½-to-1 ratio."

Mr. Swanson also said the efforts to buy excess gasoline and keep the price up were never successful, and expressed grave doubt if they would have had any beneficial effect had not the Connally act removed the constant inflow of new excess gasoline.

Paul Hadlick, National Oil Marketers Association, opposed permanent enactment of the Connally act on the following points:

"First, it proposes to make permanent a piece of emergency legislation originally a part of and designed to be used in connection with the National Industrial Recovery act.

"Second, there should be true competition between the states producing oil for the business of the consuming states.

"Third, the Connally act as it has operated has played into the hands of the major oil companies, giving them practically monopolistic control of the production of oil.

"Fourth, the oil industry cannot be half controlled (at the source) and half competitive (in the marketing branch).

"Fifth, the independent oil marketers have not enjoyed a free and open market to purchase their supplies since the federal government came into the picture and aided in holding crude oil below market demand."

Mr. Hadlick submitted an amendment which would disintegrate the branches of production, transportation, refining and marketing of major oil companies.

GAS TAX DIVERSION

Withdrawal of federal highway aid from all states that use special motor taxes for purposes not related to highways is threatened by Congressman Wilburn Cartwright of Oklahoma, coauthor of the Hayden-Cartwright road act and chairman of the house committee on roads.

"Congress cannot be expected to continue indefinitely attempts to help complete the highway systems of those states which pursue the indefensible practice of misappropriating their own gasoline and other motorists' special taxes to purposes not related to highways," he declared. "Congress has formally declared this practice unfair and unjust. It should now be made unprofitable as well."

Congressman Cartwright's statement closely follows the statement made by another congressional road expert, Senator Carl Hayden of New Mexico, joint author of the Hayden-Cartwright roads act and a member of the senate committee on post-offices and post roads. Senator Hayden said: "The enactment of state laws diverting gasoline and other motor vehicle taxes from highway purposes to other uses can only be construed by the national congress as a clear indication that the states are not interested in the continuance of a program of highway construction and consequently do not care to continue to receive the benefits of federal aid for roads."

Crude Oil and Refinery Situation Summarized—1936-1935

Supply and Demand—Crude Oil (Bbls.)

	Total supply	Total demand	Excess Demand	Excess Pct.	Domestic production	Imports	Indicated domestic demand‡	Exports	Stocks refinable crude Dec. 31
1936	1,130,843,000	1,157,514,000	26,671,000	2.4	1,098,516,000	32,327,000	1,107,330,000	50,184,000	288,184,000
Daily average	3,090,000	3,163,000	73,000	.....	3,001,000	88,000	3,025,000	137,000	.....
1935	1,028,835,000	1,051,234,000	22,399,000	2.2	996,596,000	32,239,000	999,804,000	51,430,000	314,855,000
Daily average	2,819,000	2,880,000	61,000	.....	2,730,000	88,000	2,739,000	141,000	.....
Increase, 1936	102,008,000	106,280,000	.....	.....	101,920,000	88,000	107,526,000	†1,246,000	†26,671,000
Increase, 1936	9.9%	10.1%	.....	.....	10.2%	0.3%	10.8%	†2.4%	†8.5%

Supply and Demand—Refinery Products—Motor Fuels (Bbls.)

	Total supply	Total demand	Excess Demand	Excess Pct.	Domestic production	Imports	Domestic demand	Exports	Stocks Dec. 31§
1936	515,485,000	509,422,000	*6,063,000	*1.2	515,485,000	.....	481,591,000	27,831,000	66,940,000
Daily average	1,408,000	1,392,000	*16,000	.....	1,408,000	.....	1,316,000	76,000	.....
1935	468,021,000	465,423,000	*2,598,000	*0.6	468,021,000	.....	434,810,000	30,613,000	60,391,000
Daily average	1,282,000	1,275,000	*7,000	.....	1,282,000	.....	1,191,000	84,000	.....
Increase, 1936	47,464,000	43,999,000	.....	.....	47,464,000	.....	46,781,000	†2,782,000	6,549,000
Increase, 1936	10.1%	9.5%	.....	.....	10.1%	.....	10.8%	†9.1%	10.8%
Kerosene									
1936	56,083,000	58,365,000	2,282,000	4.1	56,082,000	1,000	51,479,000	6,886,000	5,633,000
1935	55,813,000	54,296,000	*1,517,000	*2.8	55,813,000	.....	47,645,000	6,651,000	7,915,000
Increase, 1936	270,000	4,069,000	.....	.....	269,000	1,000	3,834,000	235,000	†2,282,000
Increase, 1936	0.5%	7.5%	.....	.....	0.5%	.....	8.0%	3.5%	†28.8%
Gas Oil and Fuel Oil									
1936	446,205,000	443,271,000	*2,934,000	*0.7	427,070,000	19,135,000	408,991,000	34,280,000	106,918,000
1935	389,258,000	395,671,000	6,413,000	1.6	373,128,000	16,130,000	366,723,000	28,948,000	103,984,000
Increase, 1936	56,947,000	47,600,000	.....	.....	53,942,000	3,005,000	42,268,000	5,332,000	2,934,000
Increase, 1936	14.6%	12.0%	.....	.....	14.5%	18.6%	11.5%	18.4%	2.8%
Lubricating Oils									
1936	30,908,000	30,991,000	83,000	0.3	30,905,000	3,000	22,676,000	8,315,000	6,942,000
1935	27,854,000	28,160,000	306,000	1.1	27,853,000	1,000	19,661,000	8,499,000	7,025,000
Increase, 1936	3,054,000	2,831,000	.....	.....	3,052,000	2,000	3,015,000	†184,000	†83,000
Increase, 1936	11.0%	10.1%	.....	.....	11.0%	200.0%	15.3%	†2.2%	†1.2%
Petroleum Wax (Lbs.)									
1936	489,589,000	488,830,000	*759,000	*0.2	472,920,000	16,669,000	301,488,000	187,342,000	115,434,000
1935	469,797,000	491,258,000	21,461,000	4.6	450,240,000	19,557,000	261,353,000	229,905,000	114,675,000
Increase, 1936	19,792,000	†2,428,000	.....	.....	22,680,000	†2,888,000	40,135,000	†42,563,000	759,000
Increase, 1936	4.2%	†0.5%	.....	.....	5.0%	†14.8%	15.4%	†18.5%	0.7%

*Excess supply. †Decrease. ‡Crude oil only. §Includes finished, unfinished refinery gasoline and natural gasolines. Note: Total supply equals domestic production plus imports. Total demand equals domestic demand plus exports. Data on demand for refined products are based on refinery shipments.

Crude Oil Run to Stills and Total All Oils (Bbls.)

	Total imports§	Total exports§	Total crude to stills	Per cent yield gasoline‡	Nat. gasoline production	Total supply all oils*	Total demand all oils*	Stocks all oils Dec. 31
1936	56,818,000	130,016,000	1,068,134,000	47.3	42,041,000	1,199,912,000	1,223,179,000	518,433,000
Daily average	155,000	355,000	2,918,000	....	115,000	3,278,000	3,342,000	.....
1935	52,635,000	128,987,000	965,790,000	47.4	39,333,000	1,090,435,000	1,112,673,000	541,914,000
Daily average	144,000	353,000	2,646,000	....	108,000	2,987,000	3,048,000	.....
Increase, 1936	4,183,000	1,029,000	102,344,000	....	2,708,000	109,477,000	110,506,000	†23,481,000
Increase, 1936	7.9%	0.8%	10.6%	....	6.9%	10.0%	9.9%	†4.3%

*Total all oils includes crude and refined products, natural gasoline and benzol. †Decrease. ‡Includes natural gasoline blended at refineries. §Includes crude oil and refinery products. In case of imports includes receipts in bond and for domestic use. All data based on Bureau of Mines reports.

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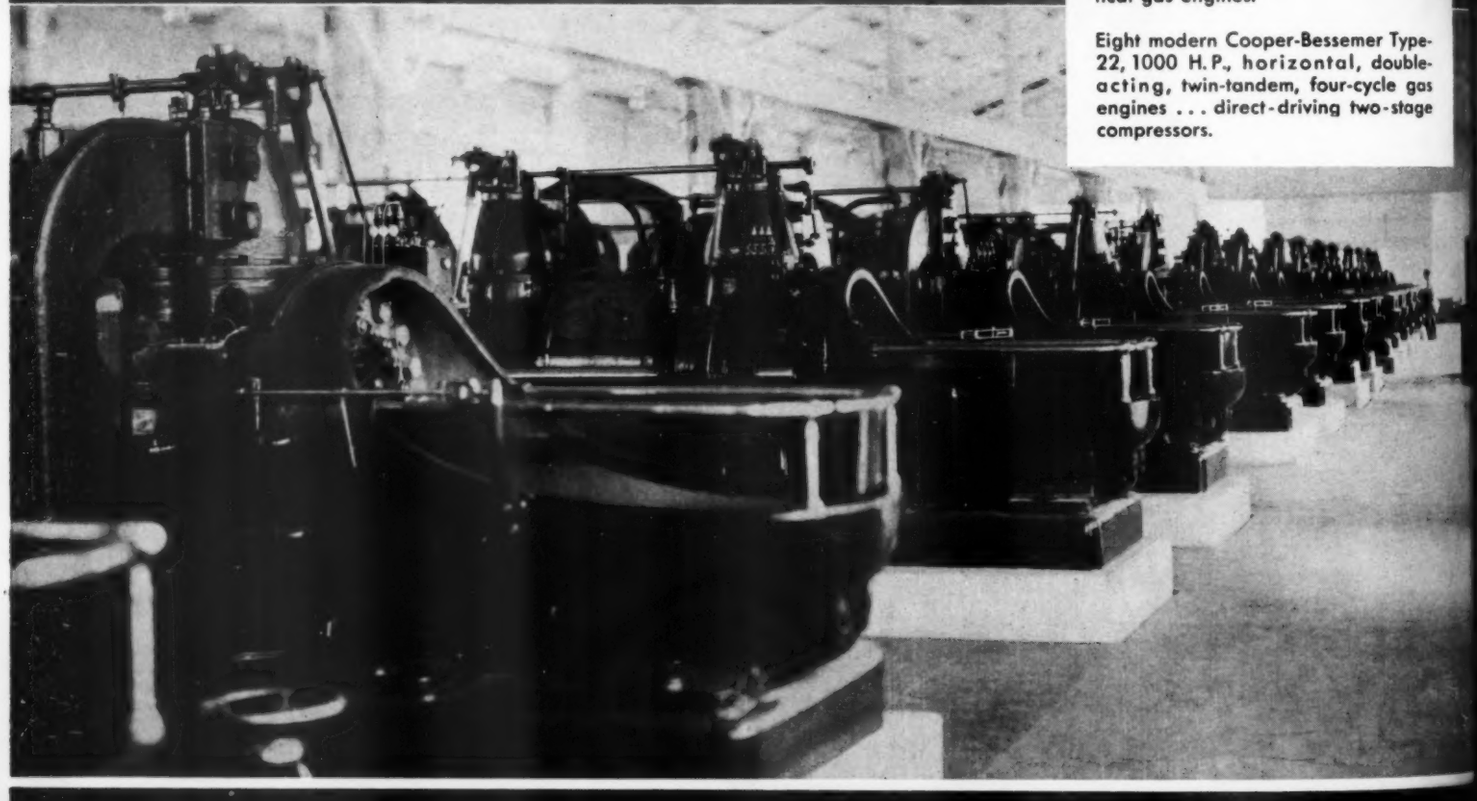
Eight modern Cooper-Bessemer Type-22, 1000 H.P., horizontal, double-acting, twin-tandem, four-cycle gas engines . . . direct-driving two-stage compressors.



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Capable of handling 60,000,000 cu. ft. of gas daily, the Rodessa Station is remarkable in another respect.

Only two gasoline plants in history have required 1000-H. P. gas engines. The first was Midwest Refining Company's plant at Salt Creek, Wyoming where seven 1000-H. P. Cooper-Bessemer gas engines were installed in 1921 and are still in operation.

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GROSS PRODUCTION TAX INCREASE BEFORE THREE LEGISLATURES

Gross production tax legislation is pending before the legislature of Texas, Oklahoma and Kansas. In Kansas which has no gross production tax two bills were presented, one for a 3 per cent tax and one for a 4 per cent tax, the 4 per cent measure displacing the other. Joint hearings began before the house committees on gas and oil and assessment and taxation February 17.

In Oklahoma hearings on the bill proposing to increase the gross production tax from 5 to 10 per cent were begun before the house gas and oil committee February 16.

In Texas the house revenue and taxation committee reported favorably the Reed bill to increase the gross production tax from 2¾ per cent to 10 per cent. Previously the house had refused to send back for further hearing a combination bill recommended by the state affairs committee which would increase the oil tax from 2¾ to 4 per cent, on carbon black from one-twelfth of a cent to a cent a pound, on natural gas from 3 per cent of value to 1 cent per 1,000 feet and on sulfur from $1.03 to $2 a ton.

The committee recommendation for the 10 per cent bill came after three days of hearings, during which independent operators protested vigorously, claiming such a tax would prove ruinous and close down thousands of wells. Many of the stripper wells, operators informed the committee, made a profit of but a few cents a barrel.

The Reed bill gives three-fourths of the revenue to old age assistance and one-fourth to the public schools. Because the allowable production has been increased, previous estimates of a $40,000,000 annual yield from this levy were declared to be too conservative, that if present production continues the revenues will be around $48,000,000 a year, in which event old age pension fund would receive $36,000,000 more yearly, although Governor Allred said that this particular fund needs only $1,600,000 additional.

Oil representatives contend an enormous advantage would be given to producers in other states should the committee recommendation carry. Independent operators in the North Texas Oil and Gas Association and the West Central Texas Oil and Gas Association are actively opposing the bill.

At Oklahoma City hearings last week on the 10 per cent gross production bill George Bradfield, Shawnee operator, told the committee such a tax "will force 80 per cent of our wells out of production. You will kill the goose that lays the golden egg."

Representative Kight, chairman of the revenue committee, presented a bill drafted by the tax commission providing an excise tax of 5 per cent on the manufacture of gasoline and motor fuels produced from casinghead or natural gas. The payment would be in lieu of general ad valorem property tax on such fuel. Ninety-five per cent of the revenue would go to the general revenue fund and 5 per cent to the tax commission for enforcement purposes.

Another tax measure was introduced by Representative Hooper. It would levy a tax of 10 cents per acre on royalty interests or 5 cents an acre on fractions of less than one-half royalty interest. The tax would be in lieu of all other taxes which might be imposed.

American Chemical Society

Solvents used in dewaxing of lubricating oils and the desired properties of these solvents were the outstanding topics of discussion at the meeting of the Oklahoma petroleum section of the American Chemical Society, held February 13, in Barnsdall, Okla. Approximately 125 petroleum chemists were in attendance,

Following a short period given over to social and business activities, J. W. Horne of the Bureau of Mines delivered a paper on "Solvent Extraction of Wax in Wax Distillation." Mr. Horne discussed the use of various solvents and their selectivities and other important properties. A method developed by the Bureau of Mines for determining the wax content of crude oils was described, Mr. Horne stating that results of experiments with equipment varied only .5 per cent from a mean wax content. The process of dewaxing with methyl chloride and acetone, while not as yet suited for commercial purposes due to economic reasons, was well adapted for making laboratory determinations he stated.

"Determination of Wax in Oil-Wax Mixtures" was read by E. A. Borch of Continental Oil Co., in which he outlined the need for greater flexibility in making the tests than present methods described in the literature permit. Tentative determinations and properties desired for a good solvent were also discussed by Mr. Borch.

Following this paper Marion Mutaszak of Phillips Petroleum Co. discussed the absorption of gaseous olefins in sulfuric acid and described the work done by early chemists. Errors entering into these determinations and their elimination were discussed and also the solubilities of various olefins. Several slides illustrating the apparatus used, and data and diagrams resulting from his experiments were shown.

A short period of the session was devoted to "analytical novelties" after which W. A. Jones of Continental Oil Co. discussed the "Modified Indiana Oxidation Test Procedure." The concluding paper of the session was read by W. A. Stewart of Empire Oil & Refining Co., dealing with equipment for the laboratory evaluation of crude oils.

THE MARKETS*

CRUDE OIL: ***Demand is firm, notwithstanding new all-time records in daily production almost every week. Daily output in week ending February 13 touched fresh peak, 3,267,115 bbls. No changes in price postings.***

REFINERY: ***Retail gasoline quotations generally in better balance with crude costs and tankcar prices as result of Indiana's step in raising tank-wagon and dealer prices. Heavy fuels in vigorous demand with prices up. Gasoline sluggish with difficulty in some areas in maintaining price advances. Bright stocks improved. Kerosene strong and furnace oils firm.***

TANK-WAGON AND SERVICE STATION: ***Standard of Indiana raised tank-wagon and dealer gasoline prices .3 cent in 10 states and advanced subnormal prices correspondingly in the same areas. Atlantic Refining Co. advanced dealer price of gasoline one-half cent throughout its territory and kerosene a half-cent in Pennsylvania and Delaware.***

FINANCIAL: ***Oil shares acted well in an erratic market, some issues, including Standard of New Jersey and Standard of California recording new post-depression highs. Average of 30 representative stocks for week ending February 13: High, 44.28; low, 42.61; close, 43.35. Week ending February 6: High, 44.44; low, 42.20; close, 43.45.***

**Detailed information in Market Section.*

Six Craters From Blowout

(Continued from Page 23)

At the same time the Elliff well was killed with mud pumped into the hole.

This was just in time because gas began breaking through the surface near the well. The ensuing crater quickly surrounded it and fire, which started, burned off the christmas tree, leaving the wobbling casing sticking up. Cratering then cut a ditch between this crater and the other about 250 feet away, providing a connection, through which water can flow from one to the other and along which a continuous fire blazes at times. A dike now has been thrown up around both these craters to form one large reservoir for water accumulation.

The water well which lately blew out and cratered is in the opposite direction from these craters, being nearly 1,500 feet north and a little west of the original blowout. When it blew out the camp of the Eastman engineers was only about 50 feet distant, and had to be moved in a hurry. The well, which has been dry for many years, is again making considerable water which is being run off in a ditch. The water spouted as high as 75 feet at times.

A dike, at first 1,000 feet square and 7 feet high, was thrown up around the original blowout well and the two adjoining craters. With the fluid production of the three craters, this reservoir filled, and the dikes had to be extended eastward, to handle the overflow. A drag line now is kept busy extending the dikes and reservoirs. The reservoirs so far have been extended to cover an area estimated around 75 acres.

Several of these craters have gone dead at different times and dried up, but these periods of inactivity have been shortlived. The original blowout itself was dead for a time but revived, and now all craters are active, and burning. Operators desire to keep them burning to prevent accumulation of gas in the area.

Sands causing the succession of blowouts are believed those encountered between 300 and 600 feet. The high-pressure gas from the deep well blowout apparently migrated into these sands, and from these was able to break through the loose, unconsolidated overlying surface formations at places. Below these sands to the 6,300-foot gas sand, formations are largely shales and present little hazard. With two surface protection strings of pipe cemented from bottom to top, most of the danger of a blowout in the relief well is believed over. However, every precaution is being exerted in its drilling. Mud weight has been carried constantly between 10.1 and 10.5 pounds with a viscosity running between 20 and 25. When the well reaches its goal in the sand near the first well, it is the plan to kill the gas by pumping water through the relief well into the sand as has been done in similar undertakings.

OBITUARIES

THOMAS J. THOMPSON, 73, for 43 years an employe of Standard Oil Co. of Indiana and one of its directors when he retired in 1926, died suddenly at his home in Chicago Feb. 15 of a heart attack.

J. F. GILMORE, vice president in charge of the Los Angeles branch of the Enterprise Engine Co., San Francisco, Calif., was among those lost in the crash of a Los Angeles-San Francisco plane in San Francisco Bay last week.

WILLIAM FINLEY HILLIARD, 83, retired Tulsa oil man, died February 15. He was an employe of the Standard Oil Co. for 35 years. He lived in Washington, Pa., for 40 years.

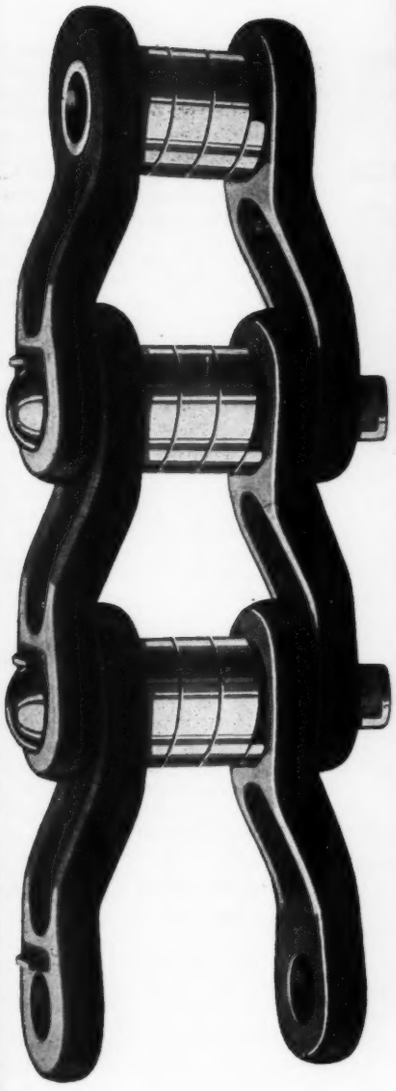
JOHN A. GREENE, 57, Mannford, Okla., president of the Greene Oil & Gas Co., died in a Tulsa hospital February 13 from injuries in an automobile accident two months ago.

HARRY E. SHELDON, 75, president of the Allegheny Steel Corp., died Feb. 10.

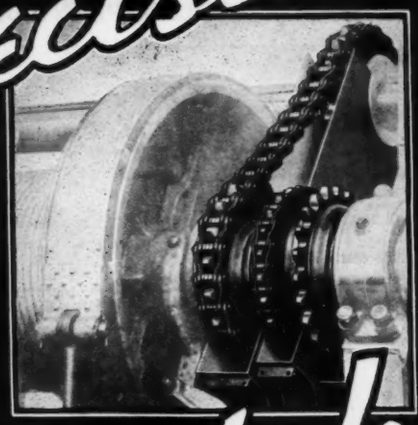
BURT S. SCHAFER, mill representative for South Chester Tube Co., Dallas, Tex., died at his home there after several days illness with influenza.

CHARLES SCHWARTZ, 68, Tulsa, former driller, died Feb. 12. He removed to Oklahoma 20 years ago from Leonardville, Kans., and lived for a time at Muskogee, Okla.

HARRY T. McCLAIN, 51, formerly an independent operator of southeastern Louisiana and Texas died at Lake Charles, La., after an illness of four months. He at one time was engaged in operations in Port Barre and Hackberry fields.



Precision



Matched

IDEAL CUT TOOTH STEEL SPROCKETS

IDEAL TYPE F SPIRALOY ROTARY CHAIN

THE NATIONAL SUPPLY COMPANY OF DELAWARE

National

NSCO
"REG. U. S. PAT. OFF."

Natural Gasoline

MAGNOLIA'S FITTS POOL GASOLINE PLANT UNDER CONSTRUCTION

Magnolia Petroleum Co.'s natural gasoline plant in the side of the Fitts pool. The plant which is now under construction will have a daily capacity of 60,000,000 feet of gas. Total cost of the plant and gathering system when completed will approximate $750,000.

Natural Gasoline Association

The sixteenth annual convention of the Natural Gasoline Association of America, scheduled for May 19-21 at the Hotel Tulsa, Tulsa, Okla., will again feature the "Operating Kinks" session for field men of the natural gasoline industry. Presented for the first time last year, this session met with such a broad response from operating men that the program committee unanimously agreed to repeat this portion of the program at the coming meeting. The entire morning of May 21 has been set aside for the discussions of this group.

As at its initial presentation, this session will take the form of a prize contest in which field men will compete with their original ideas for solving many of the production and operating problems in or about natural gasoline plants. Eight cash prizes totaling $125 will be given to winners of first and second places in the four classifications into which the contest is divided.

In commenting on this portion of the convention program, T. R. Goebel, Shell Petroleum Corp., president of the association, indicated the reason for continuing this feature: "Convention programs of the immediate past have been largely devoted to the highly technical aspects or the broad phases of marketing in which the average plant or field man has little contact. The 'kinks session,' however, provides a forum where this large group of invaluable assistants can discuss their own technical subjects and exchange operating ideas. I am glad the convention committee has decided to present this feature again, for the unqualified success of the first attempt last year indicates the favor with which plant men generally look upon such an opportunity to review innovations in their own field."

The "Operating Kinks" session will be an informal round-table discussion at which the field man may present his own ideas for improving or simplifying any operation connected with the manufacture of natural gasoline. It is to be an opportunity for public expression of the many valuable ideas developed by the men on the operating end of the industry. These ideas can be exchanged, criticized and discussed at the session and prizes will be awarded by a committee of gasoline plant operators. The first and second prizes in each of four classifications will be $15 and $10, respectively, and a grand prize of $25 will be awarded for the most practical and valuable idea of all classes. H. W. Harts, Natural Gasoline Corp., is chairman of the session and awards committee.

The convention program committee consisting of D. E. Buchanan, Hanlon-Buchanan, Inc., Tulsa, Okla., chairman; S. C. Carney, Phillips Petroleum Co., Bartlesville, Okla.; R. A. Carter, Continental Oil Co., Ponca City, Okla.; D. B. Dow, Indian Territory Illuminating Oil Co., Bartlesville, Okla.; H. E. Felt, Warren Petroleum Co., Tulsa, Okla.; W. E. Reardon, Coltexo Corp., Monroe, La., and D. M. Wolfe, Standard Gasoline Co., San Francisco, Calif., has announced the following rules and regulations for the submission of ideas for the field men's session:

RULE OF CONTEST

1. Any employe of a natural gasoline manufacturer may submit one or more "operating kink" ideas.
2. Permission of the employer must be secured before any idea is submitted.
3. Each idea must be submitted in writing and three copies of each must be presented in the form designated on the "operating kink" blanks which may be secured from the Natural Gasoline Association of America, 819 Wright Building, Tulsa, Okla.
4. One clear drawing or distinct photograph may be submitted with each kink and wherever possible the association will make slides therefrom.
5. Five minutes time will be allotted to an employe, at the round-table discussion, for the explanation of each of his kinks.
6. The originator of the kink, although urged to do so, need not be present to explain his idea. Any employe of a natural gasoline manufacturer may explain the idea of any other employe of the same concern.
7. Prize awards are to be made by a committee of gasoline-plant operators and their decisions will be final.
8. All "operating kink" entries should be in the N.G.A.A. offices by May 1, 1937, in order that the judges may have ample time to study and classify the entries before the meeting date.
9. Any "operating kink" entry may be made within the following classifications:

(a) Operation or maintenance of engines, compressors, pumps, turbines, electric motors, electric generators or boilers.

(b) Metering or other volumetric measuring; temperature controlling, pressure controlling; volume controlling, liquid-level controlling; laboratory equipping or operating methods.

(c) Gasoline or oil distillation; fractionation; gasoline absorption, condensation or cooling, gasoline or gas treating.

(d) Field pipe-line and other field operation and maintenance; gasoline storing; gasoline loading; special tools, labor saving or safety devices; accounting or record-keeping methods; or any other phase of natural gasoline manufacture not covered within the preceding classifications.

Texas December Production

Dry gas production in all Texas districts continued to increase in December as compared with November, according to the monthly report prepared at direction of the Railroad Commission of Texas.

Total daily production for the state was 1,704,431,000 feet or an increase of 3.67 per cent over that of November.

The dry gas produced daily during December was utilized as follows: Light and fuel, 991,411,000 feet, or 58.19 per cent; repressuring, 20,376,000 feet; gas-lift, 23,053,000 feet; stripped and the residue sold, 657,062,000 feet, or 38.55 per cent; and miscellaneous lease operations, 12,529,000 feet.

Natural gasoline plants during December processed an average of 1,911,612,000 feet of gas daily, the total being composed of the following volumes of gas: Casinghead gas, 805,797,000 feet; sour gas, 457,964,000 feet, and sweet gas, 647,851,000 feet. From these volumes, 1,857,647 gallons of natural gasoline were produced, or an average of .97 gallons per 1,000 feet of gas processed.

Empire Haven Plant Completed

Empire Oil & Refining Co.'s new natural gasoline plant in the Stone sector of the Burrton pool, near Haven, Kans., is scheduled to begin operation this week following preliminary tests on the plant equipment. Daily capacity of the plant is approximately 30,000,000 feet, from which some 18,000 gallons of natural gasoline will be extracted daily. The gasoline will be transported by pipe line to a loading rack on the Arkansas Valley interurban and shipped by tankcar to Empire's Ponca City, Okla., refinery.

Coltexo Adding New Compressors

SHREVEPORT, La.—Coltexo Gasoline Co., now operating a 60,000,000-foot capacity absorption plant in the Rodessa field, is installing two new compressor units to afford higher absorber pressures. The plant, which is located on Standard Oil Co. of Louisiana's Sexton property in section 14-23-16, was completed in November, 1936, at a cost of approximately $200,000.

Humble Buys East Texas Plant

HOUSTON, Tex.—Purchase of the General American Oil Corp.'s natural gasoline plant near Kilgore, Tex., in the East Texas field by Humble Oil & Refining Co. has been announced by officials of the latter company. The plant, which was built in 1936, has a capacity of 12,000,000 feet daily and is connected to approximately 1,030 wells. The consideration was reported in excess of $1,000,000.

Natural Gas

Kansas City Gas Contract

KANSAS CITY, Mo.—Seeking a more diversified fuel supply, Kansas City Power & Light Co. is contracting to use natural gas for approximately a third of its present fuel requirements over the next five years.

In that period the company will purchase from the Kansas City Gas Co. 21,950,000,000 feet of gas. The contract price was said to be competitive with the cost of steam coal.

The company is contracting to buy "off-peak" gas, subject also to turn-off on an hour's notice. The contract does not contemplate the use of gas at the two power plants from December 23 to February 23. In the other 10 months, the Kansas City Star reports, the gas is to be supplied to priorities vested in all other gas companies.

In measuring needs, in the event of any limit in gas supply, not only will domestic and commercial customers be supplied first, but all factories and gas users of every sort are to be safeguarded ahead of Kansas City Power & Light Co. In this it becomes the purchaser of what sometimes is termed "dump gas."

The contract is to become operative about May 1. Kansas City Gas Co. will have to construct several miles of large pipe line, new gas mains to the Grand Avenue and northeast power plants. In fact, it is expected that most of the prospective profit to the company in the five-year period will go into this plant extension.

The contract provides for the company to use

substantially more gas in the last three years than in the first two years to permit the company to deal equitably with its coal contractors.

Natural Gas Output

WASHINGTON, D. C.—The Bureau of Mines reports the nation's natural gas production of 1,916,505,000 feet in 1935 was about 8 per cent higher than 1934 but value of the product at the wells reached the lowest level on record.

Natural gas imports from Canada totaled 106,000,000 feet. Exports to Canada totaled 73,000,000 feet and exports to Mexico were 6,727,000,000 feet, making the domestic consumption 1,909,901,000,000 feet.

Slightly more than half of the gain over 1934 the bureau credited to increased demand by industries "other than field use" and carbon black manufacture.

The bureau said producers received an average of 5.8 cents per 1,000 feet of gas, the lowest average returns "so far recorded" and compared with 6 cents in 1934.

Refinery Projects

Texas Adding New Unit

HOUSTON, Tex.—Ground is being cleared and drawings are practically complete for the Texas Co.'s new 15,000-bbl. per day distillation unit to be constructed at its Port Arthur, Tex., refinery. The unit, of E. B. Badger & Sons Co. design, will consist of a two-stage atmospheric and vacuum pipe still augmenting existing distillation equipment. At present the Port Arthur plant has a crude capacity of 75,000 bbls. daily and cracking capacity of 95,600 bbls. daily. Completion of the new unit is scheduled for the first part of July, 1937.

New Pierce Unit Progressing

NEW YORK.—Construction on Pierce Oil Co.'s, S. A. new distillation unit at Tampico, Mexico, is progressing rapidly and will be ready for test runs in the near future. Capacity of the new unit will be 6,000 bbls. daily, thus increasing the total refining capacity of the refinery to 16,000 bbls.

To Build Polymerization Unit

NEW YORK.—Alco Products, Inc., New York, has been engaged to construct a polymerization unit for Tide Water Associated Oil Co., at Avon, Calif. At the same time, Alco will build a new cracking unit for Tide Water at Avon to operate on heavy California residual and low-gravity crude. The new polymerization unit is designed to produce approximately 800 bbls. of 80 octane gasoline per day operating on cracking still gases. Completion is due in September, 1937. Alco engineers are now engaged in designing both the cracking unit and the polymerization plant.

Barnsdall Corpus Christi Plant

HOUSTON, Tex.—Barnsdall Oil Co. is reported to have purchased 123 acres of land adjoining the ship channel at Corpus Christi, intimating that company's decision to locate its proposed refinery in Corpus Christi. Through an arrangement with the city council, the refining company will close a contract for the supply of treated sewage water at regular industrial rates, contingent on the building of the refinery.

Barnsdall has been investigating Gulf Coast industrial sites with intention to locate a modern refinery on deep water. The development of Barnsdall production in the Flour Bluff field in Nueces County, near Corpus Christi, and the new Barnsdall discovery in Aransas County may have a deciding effect on the company's intention to locate in Corpus Christi.

Pipe Line Activity

Pipe Line Divorcement Bill

A bill to divorce ownership of pipe lines from oil companies by prohibiting a pipe line carrier from transporting oil produced by it has been introduced by Senator William E. Borah of Idaho. The bill, S. 1398, is identical with a measure Senator Borah introduced in the last congress, and would amend the interstate commerce act by adding the following section:

"8a. From and after June 1, 1937, it shall be unlawful for any common carriers engaged in the transportation of oil or other commodity, except water and except natural or artificial gas, by pipe line, or partly by pipe line and partly by railroad or by water, to transport from any state, territory, or the District of Columbia, to any other state, territory, or the Disrict of Columbia, or to any foreign country, any article or commodity, manufactured, mined, or produced by it, or under its authority, or which it may own in whole or in part, or in which it may have any interest, direct or indirect, through stock ownership, or use, interlocking directors or officers, or other lawful means."

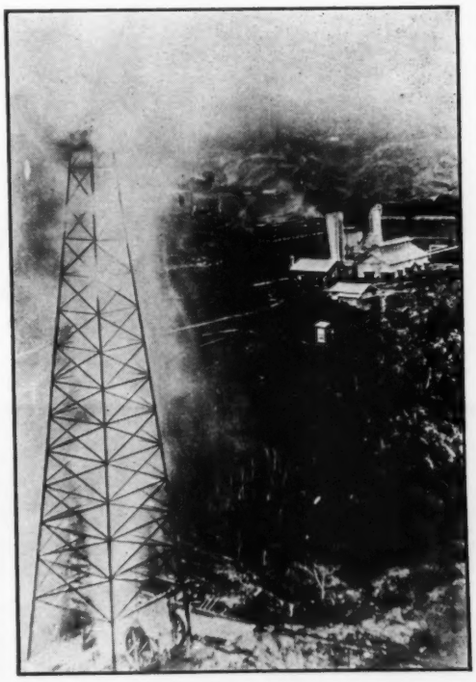
Rodessa Lines

SHREVEPORT, La.—Gulf Pipe Line Co. is laying 8½ miles of 8-inch welded line from the recently completed loop on its line to Rodessa field, Cass County side. Two additional gas-driven pumping units are being added to the Potter Point, Waskom and Carthage main line stations to care for additional oil movements from that field through Gulf pipe line facilities to the Gulf Coast.

Texas Pipe Line Co. is preparing to construct a 4-mile 6-inch line to Lion Oil Refining Co. properties in the northeastern end of Rodessa field, and will transport the oil to El Dorado through its Arkansas line.

Southern Liberty Pipe Line Co., subsidiary of the American Liberty Oil Co., will install a crude gathering system in the Texas portion of the Rodessa field to purchase oil and handle production controlled by American Liberty. All crude will be delivered to Texas Pipe Line Co. for common carrier movement to the Texas coast.

Installation of the gathering system, consisting of about 14 miles of 4- and 6-inch pipe will be made by the American Liberty Pipe Line organization. Construction work is already underway.



Natural gas field and carbon black plant, Kinsui, near Taihkou, Japan. — (Japan Photo Service)

Moving Mirando Crude

CORPUS CHRISTI, Tex. — Mirando crude is moving through the new Magnolia Pipe Line Co. 73-mile line from Tilden, in southwestern McMullen County to the port of Corpus Christi. The 8-inch welded line has a capacity of 14,000 bbls. per day, relieving the overcrowded Magnolia line from the Mirando district to Luling. At the Corpus Christi terminal the crude is being handled at the tank farm of Texas Co., with facilities for loading on tankers at two docks in the turning basin.

Pipe Line Rate Hearing

AUSTIN, Tex.—The Texas Railroad Commission has set a hearing for February 25 in Austin on pipe line transportation and storage rates for crude oil in Texas. It will particularly investigate rates for transporting oil from the Yates and other West Texas fields to tidewater.

Line to Bloomer Field

Skelly Oil Co., Tulsa, has just completed about 11 miles of 6-inch welded oil pipe line laid from the trunk line in Ellsworth County, Kansas, near the Lorraine pool, almost due west to the new Bloomer field in Barton County. The contract was let to Truman Smith Co., Eldorado, Kans. The new line will provide outlet for between 700 and 800 bbls. of oil per day from the seven wells so far completed in the Bloomer field by Skelly Oil Co.

Humble Report

President R. L. Blaffer's annual report showed Humble Pipe Line Co. handled more oil last year than in any previous year; that the average daily runs were roundly 331,000 bbls.; that the company continued its purchase of more oil than it produces; that the company's net production averaged 111,337 bbls. daily; that the company purchased in addition an average of 164,760 bbls. daily.

Reconditioning Contract

Williams Brothers, Inc., Tulsa, have contract to take up and recondition about 34 miles of 8-inch oil pipe line for the Oklahoma Pipe Line Co. east of Hugo, Okla. This work is now under way.

Missouri Pipe Line Tax

JEFFERSON CITY, Mo.—A tax of 5 cents per 1,000 feet would be provided on natural gas piped into Missouri under terms of a bill introduced in the Missouri house of representatives by Edwin G. Forest, St. Louis.

The measure would provide payment of the tax by the pipe line companies and the product would be considered delivered in Missouri when it was transferred from the main pipe line into distributing lines. Only one tax would be collected. The state tax commission would make rules for collection of the tax and supervise the administration of the law.

Sales of natural gas in Kansas City alone last year, according to the records of the State Public Service Commission, were nearly 11,000,000,000 feet, so a tax of 5 cents a thousand would be about $550,000 on the Kansas City business alone.

BUILT-IN SAFETY FACTOR

Benedum & Trees

Corpus Christi, Texas
November 23, 1936

Lone Star Cement Corporation
1402 Santa Fe Building
Dallas, Texas

Gentlemen:

Recently in attempting to cement five inch casing in fifty-eight hundred foot sand in our Smith B-2 in Saxet Field the setting tool and packer gave way and all except about thirty sacks of "STARCOR" Cement was diverted between drill pipe and seven inch casing at forty-seven hundred-twenty-four foot level and above.

The "STARCOR" Cement remained in place at that point for an hour and a half and was pumped out without difficulty. I am convinced that without the use of "STARCOR" Cement in this instance our loss would have totaled thousands of dollars in drill pipe and casing and possibly the loss of the entire hole.

The bottom hole temperature was approximately one hundred and sixty-two degrees Fahrenheit.

About thirty sacks of the "STARCOR" Cement went to the bottom of the hole and in drilling it out twenty-four hours later we found it hard and in excellent condition.

Yours very truly,

K. K. Simmons
Superintendent of Drilling and Production
Benedum & Trees

HERE is a striking illustration of the practical value of 'Starcor's controlled setting time. When the packer gave way on this job, 160 sacks of 'Starcor' Cement, in a 15-lb. slurry, backed up between the drill pipe and casing. An hour and a half later, it was pumped out without difficulty.

Had 'Starcor' set and hardened, the stem could not have been pulled, expensive drilling would have been necessary, or the hole abandoned. 'Starcor's controlled setting time saved a pretty penny, as Superintendent K. K. Simmons, of Benedum & Trees, says in his letter, printed at left.

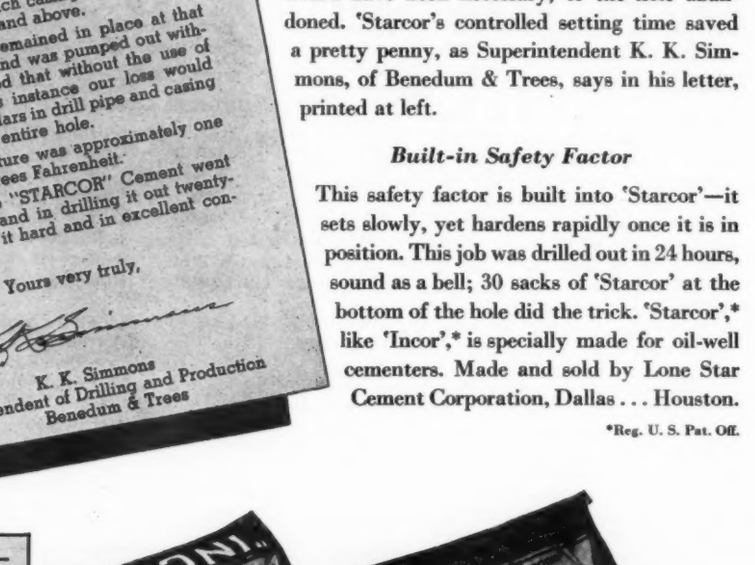
Built-in Safety Factor

This safety factor is built into 'Starcor'—it sets slowly, yet hardens rapidly once it is in position. This job was drilled out in 24 hours, sound as a bell; 30 sacks of 'Starcor' at the bottom of the hole did the trick. 'Starcor',* like 'Incor',* is specially made for oil-well cementers. Made and sold by Lone Star Cement Corporation, Dallas . . . Houston.

*Reg. U. S. Pat. Off.

TWO PORTLAND CEMENTS—BOTH MADE FOR OIL WELLS

Properties	'Incor'	'Starcor'
Greater pumpability	Free pumping at 15 to 16 lbs.	
Gel-like body	Reduces mud contamination; doesn't settle out	
Controlled setting time	Normal UNDER 140°	Normal OVER 140°
High early strength	Drill out 1 to 2 days	Drill out 2 to 3 days
Sulphate-water resistance	Good	Exceptional sulphate resistance



LONE STAR CEMENT CORPORATION

Oil News from Foreign Lands

United Kingdom Imports

Increasing domination of the British petroleum market by Netherlands West Indies, including Venezuela, and expanding use of material from British dominions and colonies were main features of petroleum imports by the United Kingdom during 1936.

Official figures released by the British Board of Trade reveal that total discharge of oil or its products at British ports last year increased about 4.75 per cent. Total imports of crude and products rose to 2,927,728,000 gallons in 1936, compared to 2,794,738,000 gallons in 1935. The value of imports increased from 33,562,687 to 37,191,647 pounds, the increase in value during 1936 being 10.8 per cent, or nearly double the percentage increase in volume.

TABLE 1—BRITISH OIL IMPORTS

(Figures in 1,000 gallons)

Product—	(1936)	(1935)
Crude oil	511,865	488,516
Kerosene	214,237	191,963
Gasoline	1,273,195	1,231,035
Lubricating oil	118,242	103,403
Gas oil	111,688	107,877
Fuel oil	679,132	655,353
Other	19,369	16,591
Totals	2,927,728	2,794,738

TABLE 2—SOURCE OF BRITISH GASOLINE IMPORTS

(Figures in 1,000 gallons)

Country—	(1936)	(1935)
Netherlands West Indies	592,699	506,880
Iran	257,337	264,432
United States	150,328	164,464
Rumania	85,362	61,724
British West Indies	81,279	67,912
Russia	44,276	36,456
Mexico	31,816	62,540
Netherlands East Indies	14,452	34,243
Other British	6,199	2,624
Other foreign	9,477	29,760

TABLE 3—SOURCE OF BRITISH KEROSENE IMPORTS

(Figures in 1,000 gallons)

Country—	(1936)	(1935)
Netherlands West Indies	63,853	42,684
Iran	63,768	61,967
Rumania	33,169	34,454
United States	27,324	13,721
Mexico	14,453	23,640
Russia	5,028	6,682
British countries	4,250	2,854
Other foreign	2,392	5,961

Although the volume of imports from the United States rose from 284,691,000 in 1935 to 293,894,000 gallons in 1936, the country lost two-tenths per cent in total participation. Offsetting reductions in U. S. shipments of gasoline, gas oil and fuel oil were substantial increases of lubricating oil and kerosene.

The United States supplied 75,586,000 gallons out of 118,242,000 gallons of lubricating oil imported by Great Britain, equivalent to nearly 64 per cent. During the preceding year this country had supplied barely more than 61 per cent, German, Russian, Mexican and British colonial lubricating oil shipments to Great Britain also gained but still represent only a small part of the business. Iraq continued the leading supplier of crude but Netherlands West Indies jumped from sixth to second position in this list while Iran and Mexico suffered substantial losses. Great Britain's total crude imports of 664,799,827 gallons were the highest since 1927. Apparent disparity between the crude import figures in Table 7 and those in Table 1 is explained by the Board of Trade in that certain products were lumped into the crude analysis which could not be classified definitely in other manners. Gasoline (labeled motor spirit in the Board of Trade review) imports continue to be the largest in volume and in value. The 1,273,195,000 gallons of gasoline imported in 1936 had a pound sterling value of 19,982,273, compared to 1,231,035,000 gallons imported in 1935 valued at 17,998,549 pounds. The Netherlands West Indies enjoyed more than 46.5 per cent of the total gasoline business as shown in Table 2, rising from about 41.2 per cent of the 1935 total which was 506,880,000 for that source. Iran, U. S., Mexico, Netherlands East Indies and "other foreign" sustained losses in business.

Netherlands West Indies and the United States were the chief benefactors from increased consumption of kerosene in the British import trade. Shipments of U. S. kerosene (see Table 3) to Great Britain rose from 13,721,000 gallons in 1935 to 27,324,000 gallons in 1936. Netherlands West Indies kerosene shipments to Great Britain topped the list by about 85,000 gallons, displacing Iran which was the largest supplier in 1935. Although Iran's total kerosene shipments to Great Britain increased from 61,967,000 gallons in 1935 to 63,768,000 gallons in 1936, the latter figure only represented 29.8 per cent of the total, compared to 32.3 per cent in 1935. From a participation of only 7.1 per cent in the total kerosene business in 1935, the United States increased to 12.8 per cent in 1936.

Despite small increases by Russia, Belgium and "other British" shipments of lubricating oil to England in 1936, the United States extended its dominating position as a supplier. U. S. lubricating oil shipments to Great Britain totaled 75,586,000 gallons in 1936, against 63,146,000 gallons in 1935. Last year's U. S. shipments represented 63.9 per cent of the total imports, compared to 61.1 per cent in 1935.

TABLE 4—SOURCE OF BRITISH LUBRICATING OIL IMPORTS

(Figures in 1,000 gallons)

Country—	(1936)	(1935)
United States	75,586	63,146
Russia	23,416	17,891
Mexico	12,027	11,740
Germany	4,379	3,042
Belgium	1,139	1,503
British countries	216	33
Other foreign	1,479	6,048

TABLE 5—SOURCE OF BRITISH GAS-OIL IMPORTS

(Figures in 1,000 gallons)

Country—	(1936)	(1935)
Rumania	51,980	37,165
Netherlands West Indies	15,655	4,339
Iran	14,363	39,902
United States	8,748	9,236
Russia	3,343	6,736
British countries	2,810	580
Other foreign	14,789	9,910

TABLE 6—SOURCE OF BRITISH FUEL OIL IMPORTS

(Figures in 1,000 gallons)

Country—	(1936)	(1935)
Netherlands West Indies	270,207	315,519
Iran	129,805	118,608
Mexico	109,288	90,263
British West Indies	57,198	36,827
United States	31,908	34,124
Rumania	24,024	19,607
Russia	4,675	11,876
Other foreign	51,856	28,525
Other British	610	463

TABLE 7—SOURCE OF BRITISH CRUDE IMPORTS

(Figures in 1,000 gallons)

Country—	(1936)	(1935)
Iraq	148,010	135,992
Netherlands West Indies	106,033	29,475
Peru	82,188	70,711
Iran	78,852	91,354
Venezuela	64,135	39,409
Mexico	9,129	89,273
British countries	11,847	9,762
Other foreign	11,671	22,540

Rumania's rapid rise in British gas-oil imports and depression of Iran from first to third position as a supplier of this product is shown in Table 5. Gas-oil shipments from Netherlands West Indies increased more than three fold entitling that source to ranking just below Rumania whereas the islands had been in fifth position in 1935.

Heavy fuel oil shipments from Netherlands West Indies shrunk to 270,207,000 gallons in 1936, compared to 315,519,000 gallons in 1935, but this volume still headed the list of British imports of that material. Iran, Mexico, British West Indies, Rumania, "other foreign" and "other British" also enjoyed various increases. (See Table 6.)

TABLE 8—SOURCE OF TOTAL BRITISH OIL IMPORTS

(Figures in 1,000 gallons)

Country—	(1936)	Per cent	(1935)	Per cent
Netherlands West Indies*	1,112,582	38.0	938,306	33.5
Iran	544,125	18.6	576,263	20.6
United States	293,894	10.0	284,691	10.2
Rumania	194,535	6.6	152,950	5.5
Iraq	148,010	5.0	135,992	4.9
British countries	163,970	5.6	120,596	4.3
Russia	80,738	2.8	79,641	2.8
Peru	82,188	2.8	70,711	2.5
Other countries	106,086	3.6	136,996	4.9

*Includes Venezuela.

Strike Cuts Venezuela Production

Full effect of idle wells and workers during the Venezuela strike was revealed in January's production summary compiled by The Oil and Gas Journal. During all of January, Lake Maracaibo district operations were confined to irregular production from flowing wells.

Interference with normal operations by the labor strike reduced Venezuela crude production to 8,130,046 bbls., a daily average of 262,260 bbls., to lowest yield of record in more than four years. But for increased output from Quiriquire and Cumarebo the January, 1937, comparison with similar periods since 1933 would have been less favorable. Venezuela's January, 1937, production compares with yield of 12,932,533 bbls. for the same month in 1936 and with 9,726,297 bbls. in December, 1936, which provided the lowest monthly total of the year due to inauguration of the strike on the 14th of that month.

Termination of the strike early in February probably will return production for the current month to approximately normal levels. Operators probably will attempt to make up part of their lost production in February from pumping properties which were idle for nearly 45 days. Depleted storage at refining points in the Dutch West Indies will enable operators to handle any semiflush production which may have accumulated.

Lagunillas, which normally supplies 60 to 70 per cent of Venezuela's crude production, furnished hardly more than 50 per cent of its usual oil during January. Mene Grande, La Rosa-Ambrosia, Tarra and La Paz suffered proportionate or greater losses.

The Quiriquire field in eastern Venezuela which was not involved in the labor strike produced approximately 1,000 bbls. more per day in January than in the preceding month while Pedernales also accounted for greater production.

Wildcat test near Lake Neuchatel, Switzerland

the OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

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Open Season for Taxes

The open season for state taxation is now in full blast. Over the entire country literally thousands of bills have been introduced providing for additional taxation on every product and practically every service offered by the oil industry.

The bills themselves reflect a general ignorance prevailing in legislative halls everywhere regarding the workings of the industry and its essential position in the industrial operations of the country and the fact that oil is a necessity and not a luxury.

In certain oil producing states such as Texas and Oklahoma where the petroleum industry is already paying the bulk of state taxation increases are being proposed and in some cases with support which indicates the necessity for a united front of opposition.

Some of the bills introduced have been of a particularly vicious nature. For instance, in Oklahoma a special tax has been proposed on every gallon of gasoline manufactured by natural gasoline manufacturers. Obviously this bill ignores the fact that natural gasoline is sold in a highly competitive market in which an eighth or a quarter cent per gallon often determines whether a plant will operate at a loss or at a profit.

The imposing of a special tax on these plants in one state simply means that the smaller operators can not continue to operate and an unfair burden will be placed on the entire industry in the state.

The proposal to increase the oil severance tax, already high, should have the active opposition of operators regardless of where they are located. Any assumption that the operators in one state can lie back while higher taxes are imposed in some other state has been proved fallacious. The top tax of today becomes the general tax of tomorrow. An addition will give an advantage to producers and refiners outside the United States to make further gains in the world market.

Looking at the question from the purely selfish viewpoint of the states themselves there can be no greater invitation for federal interference than for the states to impose excessive taxes upon natural resources which create a burden not only upon the oil industry but an addition to cost which the consumers must pay.

There is no surer way to risk retaliation by the consuming public throughout the country than for Texas, Oklahoma and Kansas to levy an excessive severance tax. There are many in congress who would welcome the opportunity. This is a case for state legislatures to "stop, look and listen."

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New Shell Line Utilizes Heat in Transporting Heavy Oils

By F. B. SIMMS
Superintendent of Pipe Lines, Shell Oil Co.

The history of Shell pipe lines in the San Joaquin Valley began in 1914, when the company built a line to transport Coalinga crude to its new refinery at Martinez. This line was a pioneer in the method of transporting heavy, viscous crudes with the aid of heat.

After 22 years this line is still in operation with the original pipe, still using the same pumping equipment, and to a large extent, still the same auxiliary equipment.

For over a decade following completion of the line Shell's attention was turned to other fields of production, most important of which was Signal Hill, which it discovered. It also had a big share in developing Santa Fe Springs, Brea, Dominguez and Ventura Avenue fields.

In the San Joaquin Valley, Shell discovered the Mount Poso field, acquired large holdings in the Round Mountain and Kettleman Hills fields, discovered Mountain View and developed the Edison field.

DEVELOPMENTS REQUIRE NEW LINE

The company had no pipe line in this area at that time and the Coalinga-Martinez line was already taxed to capacity. When Ten Section field was discovered last year the need for an additional line became really urgent. So Shell's new Bakersfield-Martinez pipe line, capable of meeting present and future requirements, including a central tank farm and a system of lateral lines, was laid down and work started.

This new main pipe line was a complete and separate system designed to work in conjunction with the existing line built in 1914 between Coalinga and the Martinez refinery. The new system required the construction of four pump stations between Bakersfield and Coalinga and mechanical additions to the existing six pump stations between Coalinga and Martinez.

Four lateral lines were constructed as a part of the project; an 8-inch line from the Mount Poso field, 12.29 miles long; a 6-inch and 8-inch line, 9.28 miles long, from the Round Mountain field; an 8-inch line, 17.21 miles long, from Shell's newly discovered Ten Section field; a 6-inch line, 20.6 miles long, from the Mountain View-Edison area. All terminated at a central tank farm.

The new main line from Bakersfield tank farm via Caliola pump station near Coalinga, to Martinez, is 257.98 miles long and consists of 189.54 miles of 10-inch pipe and 68.44 miles of 12-inch pipe.

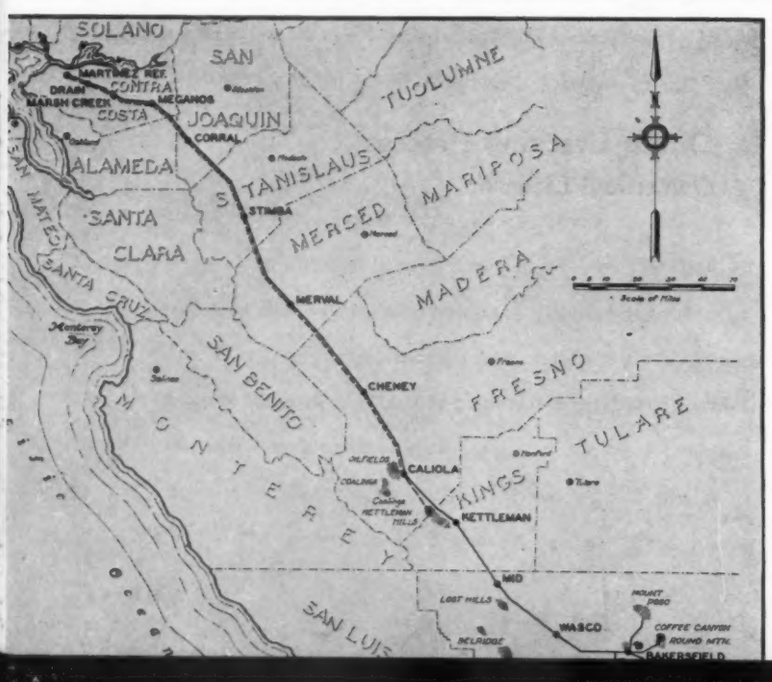
The old, or existing line, from Caliola pump station and tank farm to Martinez refinery consists of 140 miles of 8-inch pipe and 30 miles of 10-inch pipe. The new main line parallels the existing line from Caliola pump station to Martinez refinery, utilizing second line rights obtained at the time the original line was built, thereby greatly reducing the amount of new right of way to be acquired.

The route selected for the line was the shortest distance between Bakersfield tank farm and Caliola, consideration being given to other areas of production to which lateral pipe line connections might be made in the future, and other important engineering considerations, such as avoidance of improved agricultural lands, ease of transportation and feasibility of construction.

Leaving Bakersfield, the line takes a general northwesterly course, passing near the Lost Hills and Kettleman Hills oil fields to Caliola, and through Kern, Kings and into Fresno County. From Caliola to Martinez the general course is still northwesterly, passing through Fresno, Merced, Stanislaus, San Joaquin, Alameda and Contra Costa counties. From Bakersfield to Shell's Merval pump station in Merced County, a distance of approximately 155 miles, the line passes through a generally unimproved plains country. From Merval pump station northwesterly to the Meganos pump station, in Contra Costa County, a distance of approximately 75 miles, the route passes through dry farming country, growing mostly wheat and barley. At Meganos pump station mountainous terrain is encountered near the eastern slopes of the Mount Diablo range, where the highest elevation on the pipe line system is reached, approximately 1,000 feet above sea level, and 15 miles southeasterly from the Martinez refinery. At this point the line passes through highly improved vineyard and orchard country, and drops down to practically sea level at the refinery.

All engineering, designing, surveys, selection and purchase of materials and inspection was done by Shell Oil Co. Actual construction was performed under contract. Because of careful planning, organization, engineering and a splendid spirit of cooperation between the two groups working on the project, several interesting time records were made.

Digging trench for the 12-inch pipe near the northern terminus of the line, which is the Shell refinery at Martinez, Calif.



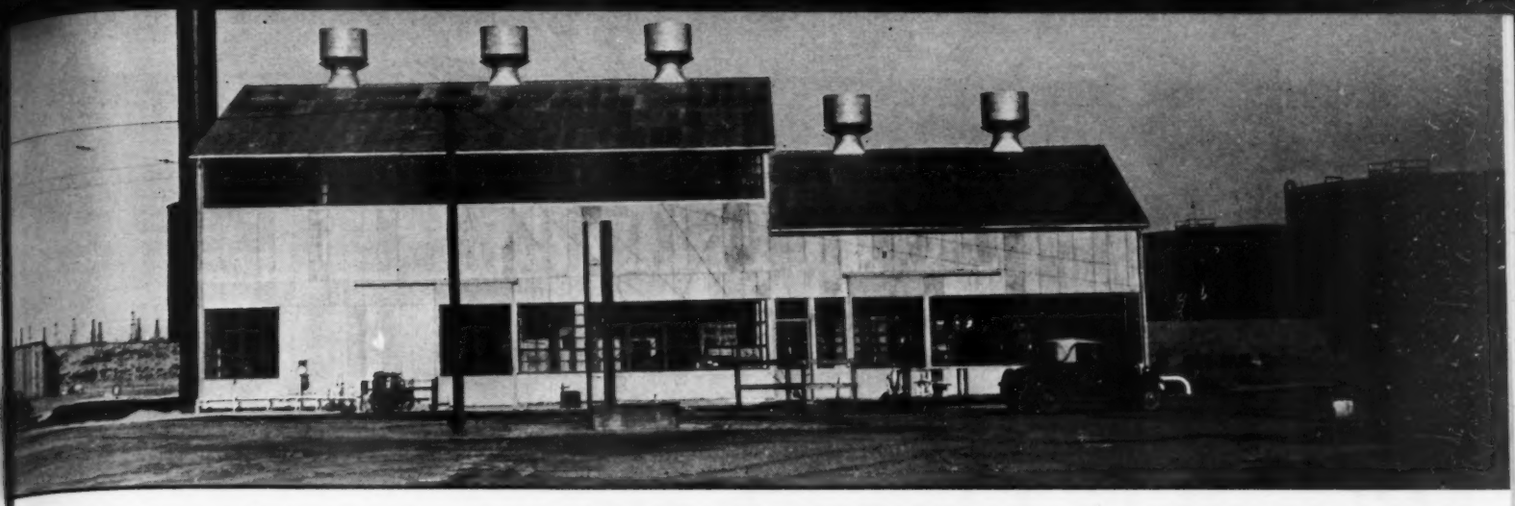
Map showing Shell's San Joaquin pipe line system. Solid lines show the new main line and laterals, while broken line shows the old Coalinga line

WORK COMPLETED RAPIDLY

Outstanding performance was by the general contractors, Lindgren & Swinerton, who completed the laying of the new main pipe line and laterals (312.16 miles in all) in the remarkable time of 90 days. They also completed the four new pump stations and made additions to the other six in a similar period of time.

No serious accidents occurred to mar the record. Naturally, a few accidents of a minor nature took place, but in handling over 26,000 tons of pipe from Los Angeles and Stockton harbors, over highway and railroad, and stringing it by truck along the predetermined 316-mile course, nothing untoward occurred, nor was a single highway traffic accident reported.

H. C. Price, Inc., of Bartlesville, Okla., performed all welding operations on the project under the personal supervision of Mr. Price, whose crews made their first weld on July 22, 1936, on the main line, and the last firing line weld on October 21 at a point near Meganos pump station in Contra Costa County. Possibly the statement that the welding contractors made the last weld is in-



The Bakersfield pump station, one of four new stations built in conjunction with Shell Oil Co.'s new Bakersfield-Martinez pipe line

accurate if we remember that the last, or "golden weld," was made, with appropriate ceremonies, by Shell's president, S. Belither, with the assistance of his manufacturing and marketing vice presidents, C. H. Van Senden and W. P. Durkee.

The new system, including all laterals, was then thoroughly flushed with water previously accumulated in Bakersfield tank farm and pressure tested, the new main line pumps being used for this purpose. No leaks were found in the entire 316 miles of line.

VARIOUS CRUDES TRANSPORTED

In designing this project, Shell's engineers had to plan a system that would be elastic enough to economically transport oils of various grades ranging from the lowest to the highest gravities. However, the most viscous oil was the controlling factor and the line was designed to operate most economically under full load moving the heaviest oils under extreme winter conditions and in order to do this it was necessary to provide a so-called hot oil line.

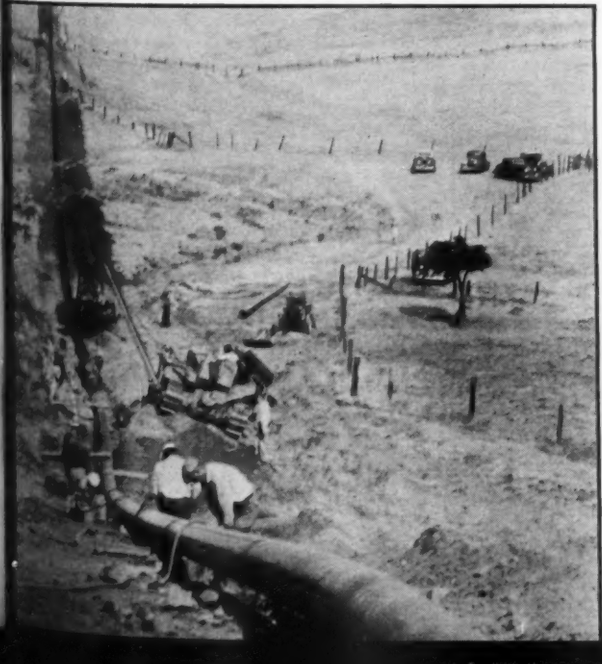
These conditions resulted in the selection of a 10-inch pipe line leaving each pump station, the diameter increasing to 12 inches about two-thirds of the pumping distance to the next station.

The 10-inch pipe on the discharge side of the pump stations weighs 34.83 pounds per foot for a distance of about 4 miles, where it is lightened to 31.2 pounds per foot to its junction with the 12-inch, which weighs 37.45 pounds per foot.

This system of pipe line weights and sizes is used throughout the entire length of the line, thus compensating by a change in pipe diameter for losses in temperature and corresponding increases in viscosity as the oil progresses away from the pumping station.

Facilities were installed at the pump stations to heat the heaviest grades of crude to the temperature of 180° F., and pump it at the rate of 1,200 bbls. per hour at an operating pressure of 1,000 pounds per square inch.

Breaking out sandstone with compressed-air drills on a rocky hillside near the Martinez refinery



Eight- and 10-inch pipe used in construction of the main line and laterals is A.P.I. grade B seamless line pipe. The 6- and 12-inch sizes were manufactured by the electric-weld process, and also conforms to A.P.I. grade B specifications. National Tube, Republic Steel, A. O. Smith Corp., Jones & Laughlin, and Spang-Chalfant received the awards on pipe.

All pipe was beveled for welding at an angle of 37.5 degrees and all field joints were made by the electric arc method, each weld being built up in three beads. Field tests were accomplished by applying compressed air to a pressure of 180 pounds on complete sections of 3 to 5 miles in length, the welds being given the soap-water leak detection test.

Slack was provided in the 6-, 8- and 10-inch sizes of the line by use of the vertical "slack-wallop" and in the 12-inch pipe by "horizontal-wallops."

FOUR CREWS USED

In laying the main and lateral lines contractors used modern equipment throughout. Sufficient side boom tractors of the caterpillar type, ditching machines and other necessary equipment which included 40 arc welding machines, were supplied to outfit four complete construction crews working simultaneously on different sections of the line. Original points along the line from which these four crews started were Bakersfield (all laterals), Bakersfield pump station to Caliola, Caliola to Meganos pump station, Meganos to Martinez. All crews finished surprisingly close together in the matter of time. The best day's run of any crew during the progress of this work was 5.25 miles of 10-inch line completely tied in. The daily average for all four crews was 3.51 miles of completed line.

Two suspension-type bridge crossings were necessary. The first is across Big Panoche Creek north of the Cheney pump station. This bridge was built in 1914 to accommodate the existing pipe line with ample provision for taking additional lines. The second, across Los Banos Creek, 2 miles north of Merval pump station, is of similar design and was built as a part of the new line. It is 260 feet long between suspension towers. Approved expansion joints were installed at each of these suspension bridges. Similar expansion joints were included on the line where it is exposed to the elements for a distance of 150 feet or more. These expansion joints have proved necessary to hot oil line operation, eliminating entirely difficulties from expansion and contraction of the line at these points.

Expansion joints were also installed on the discharge side of all pump stations to protect station manifold and yard piping against undue strain from expansion or contraction.

The proper selection of pump station locations and the equipment to be used in those stations required careful consideration. On the section of line from Caliola to Martinez it was decided to use the existing crank and flywheel type of steam driven plunger pumps as the main pumping units for the hot oil.

Additional oil heaters were installed at existing pump stations plus an additional boiler, and some minor changes were made in the auxiliary equipment, station piping, etc. Thus, station equipment and location of stations on this sector of the line was, more or less, predetermined.

It remained, then, to determine the proper lengths of 10- and 12-inch line to meet the conditions of pressure and temperature losses between the pump stations.

LINES LAID PARALLEL

It will be seen that in the Caliola-Martinez sector of the system we have two parallel pipe lines: The old, or existing combination 8- and 10-inch line, and the new combination 10- and 12-inch line. The former is operated as a constant temperature light oil line.

In order to move efficiently the greatly increased amount of oil going through these two systems there was installed at each of the six existing stations (Caliola, Cheney, Merval, Stimba, Corral and Meganos) one 237.5-horsepower Heine type longitudinal riveted drum steam boiler without superheaters. Each of these boilers was installed in separate settings and fitted with a 38-inch diameter, 130-foot welded smoke stack. The existing smoke boxes and stacks were insufficient to serve the new boiler installation. Each new boiler was equipped with Peabody type M combination gas and oil burners.

A 720-bbl., 40-foot high floating tank is connected to the suction line between the outgoing side of the heater group and the pumps, thus insuring flooded conditions in both heaters and pump suctions. The incoming hot oil is connected directly to the cold side of the heater group.

There was also installed at each of the stations on the Caliola-Martinez sector a Byron Jackson 4-inch by 6-inch six-stage O. L. multiplex centrifugal pump, directly connected to a 390-horsepower Westinghouse steam turbine. This unit is capable of delivering 1,200 bbls. per hour against 800 pounds line pressure and is so connected that it may be operated on either of the two lines on either hot or cold oil. This latter feature also applies to the crank and flywheel unit and the existing Jeannesville straight line plunger pump, which will be maintained as a standby for the other two main pumping units at each of the six stations.

HEATING EQUIPMENT

As the design of the original pumping and heating facilities provided for raising the temperature of a smaller quantity of oil to a maximum temperature of 140 degrees, whereas the new line requirements were based on an operating temperature of 180 degrees, with a greater quantity of oil to be transported, the steam turbine driven centrifugal pumps are calculated to provide the necessary additional exhaust steam to maintain thermal balance on hot oil side while actually these pumps are moving cold oil.

The originally installed heaters remain connected through a small floating tank and are used to maintain a constant low temperature on all oils moving through the original light oil or cold line from Caliola to Martinez.

The four new pump stations (Bakersfield,

(Continued on Page 46)

Union Compression Plant Designed for Flexible Operation

By B. G. ALDRIDGE, L. F. SCHEEL and L. V. HORNE
Union Oil Co.

On the Amerada King lease in Kettleman Hills North Dome district the Union Oil Co. has recently completed a gas compression plant of the most modern design.

The property, which is leased jointly by Union Oil and Amerada Petroleum Corp., is located about 5 miles north of the town of Avenal, Calif., and has been developed to the extent of eight wells averaging 8,500 feet in depth each. The initial casinghead pressure on the first well completed was about 1,800 pounds; on succeeding wells the initial pressure was lower, being, generally speaking, equal to that to which the previously completed wells had declined. As the formation gas pressure decreased, it became necessary to resort to gas-lift in order to produce the wells. This was accomplished for some time by delivering higher pressure gas from more recent wells into those of declined supply, boosting this natural pressure when necessary by means of a small steam-driven compressor. As drilling operations on this lease were completed, however, this method became inadequate, and mechanical compression on a large scale was necessary in order to fulfill production requirements at the lease.

Flow diagram showing method of operating the gas compressor plant

At this location, it is required to deliver dry gas at a pressure of approximately 475 pounds, and inasmuch as this pressure has been available from the first production, natural gasoline extraction plants were built to operate at this pressure. As the well pressure declined, the operators were faced with rebuilding their absorption plants to operate at lower pressures and boosting the subsequent dry gas for delivery, or maintaining their present absorption plants and boosting the gas before treatment. Most of the companies operating in this area decided on the latter procedure, and the Union Oil Co., therefore, as the pressure declined, was faced with the problem of increasing the wet gas pressure in order to have the gas available for treatment and sale. Other considerations were, first, that circulating gas for lift purposes is required at 900 pounds, and second, that when it became necessary to restart or "kick over" a nonflowing well, pressures up to 1,200 pounds must be available.

From the foregoing, it is evident that considerable study was necessary in order to provide a suitable header and manifold system to handle the various gas intake pressures and quantities from the different wells economically, and to coordinate these with the desired compressor stage discharge pressures.

Due to consideration being given to future, as well as present requirements, four compressors aggregating 1,200 horsepower have been installed, with sufficient ground space reserved to allow a maximum of 2,000 installed horsepower if and when required. Sizes of gas headers were determined in the light of future requirements, being of sufficient size to handle expected ultimate capacities in most cases.

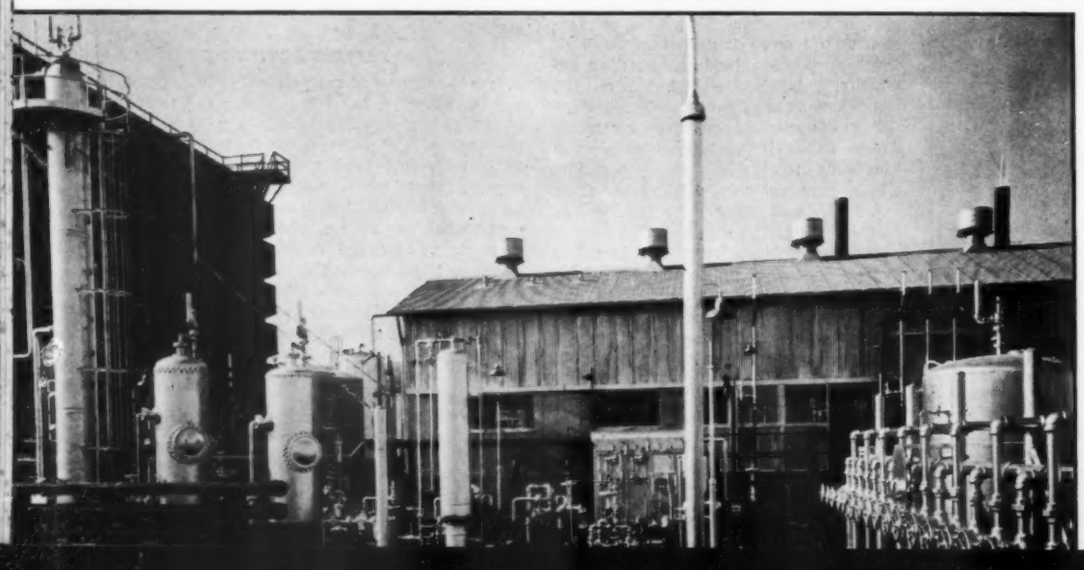
The compressor equipment, consisting of four 300-horsepower, 300 r.p.m. "Angle" type machines, are of a design hitherto unusual for this class of service and, incidentally, are among the largest machines of this type so far installed in the California fields. They are driven by natural gas on the two-cycle principle and have three power cylinders set in the vertical position, while the compressor cylinders are set at right angles thereto in the horizontal. Each power cylinder is connected to an auxiliary scavenging cylinder, the piston of which delivers air under pressure, thus driving out all products of combustion from the power cylinder after each power stroke. All compressor cylinders are so equipped with clearance pockets and valve lifters, in order that they may be used to compress gas against 475 pounds pressure from any intake pressure between 125 pounds and 300 pounds, or against 900 pounds pressure with any intake pressure between 100 pounds and 450 pounds without any cylinder changes being necessary. In this respect the plant is ultra flexible and adaptable to changing field conditions.

An unusual feature on one of these machines is the use of compressor piston rings of micarta, a phenolic compound similar in appearance to bakelite. These rings are expected to effect less wear on the cylinder walls than those of the commonly used cast-iron type.

In order to combat the dust so prevalent in the Kettleman region, all machines are supplied with filters on the combustion air intakes. A filter is also installed on the suction of the starting air compressor.

Each engine is equipped with exhaust temperature pyrometers and with safety devices designed to shut the engine down in case of failure of the governor, oil circulating pump, or water circulating pump. Fluor air cooled exhaust mufflers, discharging through the compressor house roof, are installed.

The cooling water for the power and com-



Union Oil Co.'s Amerada King compressor plant showing stabilizer, cooling tower, gas-lift header

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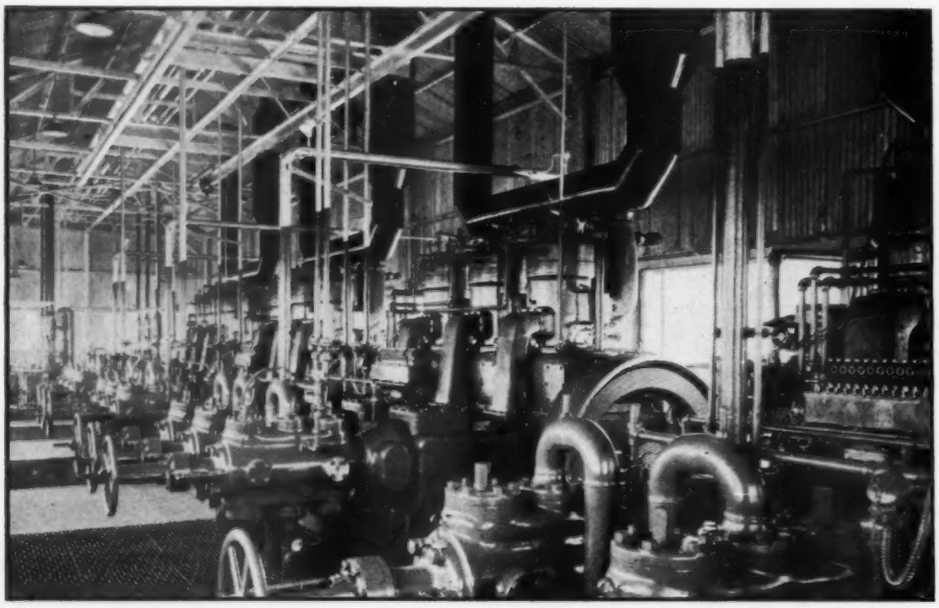
pressor cylinders is circulated by a 900 g.p.m. centrifugal pump operating against approximately 85 foot head. A spare unit is provided for this service, both pumps being powered by Ford engines.

When furnishing 900 pounds of gas to the wells for gas-lift, the wet gas is first compressed to 475 pounds and passed through an intercooler, located in the cooling tower. This reduces the gas temperature close to that of the atmosphere, after which the gas pressure is further raised to the desired 900 pounds.

Together with the intercooler, two other cooling units, one for cooling the jacket water and the other condensing reflux for the stabilizing unit, are installed in a Fluor cooling tower of the latest type, designed to provide maximum water cooling effect with minimum water loss. Water at the rate of 1,600 g.p.m. is pumped over this tower and cooled atmospherically from 90° F. (the temperature to which it is raised by absorption of heat from gas, jacket water and reflux) to 75° F. prior to recontacting the tubular sections carrying the hot fluids. Three centrifugal pumps are used for this service, two of the units handling the normal load, while the third one is a spare standby to replace either of the other two when necessary. Both the cooling tower and pumping plant have been designed for increased capacity in anticipation of future plant expansion.



Compression equipment in the plant consists of four 300-horsepower gas-driven compressors

All mechanical units in this plant have been located and interconnected to provide not only maximum flexibility in present operations but also to allow expansion of the system with minimum inconvenience and delay in field operations. The compressors and water pumps are housed in a steel frame, corrugated iron sheathed building equipped with steel sash and sliding doors. All manifolding is outside the building, the sloping ground contour being taken advantage of so as to eliminate the need for any concrete trenchwork. All suction and discharge headers are located above the graded surface and supported on concrete piers.

All instruments for compressor plant control are grouped on a panel board located in the office in the compressor building. On this board are installed pressure gauges and an indicating potentiometer equipped with switches permitting prompt reading of temperatures at critical points throughout the system.

Compressing and cooling the wet gas as described above results in the condensation of considerable raw gasoline in the 475-pound scrubber. At this pressure as condensed this gasoline fraction contains constituents which must be eliminated before it can be considered as shipping quality. To accomplish this separation, a distillation (stabilization) system has been installed to bring this product within the desired range of volatility. From the scrubber discharge the condensate stream is reduced in pressure to about 250 pounds and discharged to a surge tank in which a constant liquid level is held. Any water present in the stream is settled and drained off. From this tank the condensate is passed through a heat exchanger counter-currently to the hot stream of finished gasoline flowing from the stabilizer from which it extracts heat, cooling the outgoing stream in the process. The feed temperature to the stabilizer is approximately 250° F. The stabilizer is a 26-inch diameter by 33 feet high column having 24 distillation trays. A horizontal tubular steam heater is built into the base, by which means additional heat is supplied to maintain the required operating temperature and pressure. Undesirable constituents including methane, ethane, propane, and a large part of the isobutane present in the original feed are removed overhead and delivered to the boiler fuel lines.

Part of this overhead vapor stream is passed through a condenser located in the cooling tower, and the condensate obtained in this manner is run down to a surge tank from where it is pumped to the top of the column as reflux to control the column temperature.

The bottoms from the stabilizer constituting the finished gasoline product is delivered, under column pressure, through the heat exchanger, as previously described, to the rundown tankage where it is held at 30 pounds pressure.

Stabilizer plant controls are centrally located on a panel board. On this are grouped gauges, meters, and stabilizer temperature controller. Control valves for feed and reflux to the column as well as steam to the heater are also located at this board.

New Shell Line Utilizes Heat in Transporting Heavy Oils

(Continued from Page 43)

Wasco, Mid and Kettleman) on the Bakersfield-Caliola sector are, in most respects, identical and equipped with the finest equipment available.

As previously stated, they are designed to handle a peak capacity load of 1,200 bbls. per hour of the heaviest crude at 180 degrees temperature against 1,000 pounds pressure under extreme winter conditions.

To accomplish this each station is provided with three Ingersoll-Rand 4-stage, 6-inch centrifugal pumps driven by a 350-horsepower Moore steam turbine. Steam is supplied by three 237.5-horsepower Heine type boilers furnished by Combustion Engineering Co., Inc., equipped with superheaters operating at 200 pounds pressure and 100 degrees superheat.

Each boiler is equipped with gas and oil burners, similar to those previously described on the Caliola-Martinez sector, and a single smoke stack, 54 inches in diameter by 130 feet high.

A 7x5x10-inch duplex steam driven pump is provided for general utility service and a 2½-inch centrifugal pump with a capacity of 300 g.p.m. against total pressure of 150 pounds, driven by a General Electric 47-horsepower steam turbine, is provided as a fire pump.

The above described principal equipment on the four new stations, Bakersfield-Caliola, is housed in four structural steel frame, corrugated iron buildings, 59 feet by 100 feet long.

The boilers and all auxiliaries are separated from the main pump room by a fireproof wall. A small office is so located that an operator has clear vision of both main pump and boiler room compartments. In this office the main gauge and instrument board is installed. An instrument board is also mounted in each of the main pump and boiler compartments upon which indicating gauges, particularly adapted to controlling the equipment in each of those compartments, is mounted.

Main oil heaters in all respects similar to those installed on the Caliola-Martinez sector are used at these four stations. The heaters are installed outside each main building and are provided with a raised platform, or catwalk, to make accessible all valves and fixtures.

In order that the greatest fuel economies would be realized in the operation of these plants, auxiliary equipment was provided so that during periods of exhaust steam surplus not required for raising or maintaining the temperature of the oil being pumped, the entire plant may be operated full condensing. This is accomplished by use of a jet-type air pump capable of maintaining a high vacuum on the main oil heaters and an automatically controlled, electrically driven condensate pump.

At the Wasco, Mid and Kettleman stations no floating tanks are provided. The incoming stream of oil is directly connected to the main pump suction so arranged that the oil may be diverted directly to the pumps without passing through the heaters, or vice versa. The main pump steam turbines are equipped with pressure governors so regulated that a back pressure is maintained on the oil heaters or suction sufficient to insure flooded suction conditions and automatic regulation of pump output in step with the upstream station; Bakersfield pump station output being manually controlled.

Wasco, Mid and Kettleman stations are each equipped with two 15,000-bbl. A.P.I. steel service tanks; two 1,000-bbl. steel water storage tanks and two 144-bbl. steel fuel oil storage tanks.

At Bakersfield pump station there are two 144-bbl. steel fuel oil storage tanks and two 1,500-bbl. steel water tanks, the latter serving the tank farm, the pump station and the new office building and camp, which were also recently constructed and put into operation.

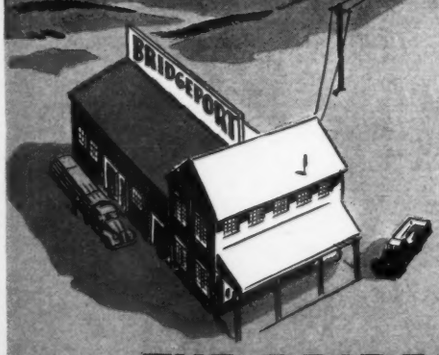
Because of the obvious necessity of collecting ahead and temporarily storing the crude coming in from the laterals, a complete and new tank farm was erected, strategically located some 5 miles north of Bakersfield.

At the tank farm six 68,000-bbl. A.P.I., 102-foot diameter, eight rings high, welded bottom, riveted shell and welded cone roofed tanks were erected; also two 68,000-bbl. tanks of similar specifications except that these two were equipped with Wiggins pontoon roofs. This made a total gross storage at Bakersfield tank farm of 544,000 bbls.

At Caliola tank farm two 68,000-bbl. pontoon roof equipped tanks were added to the existing storage at that point which consisted of seventeen 55,000-bbl. steel tanks erected in 1914.

The elapsed time taken for the engineering, design, purchase and delivery of equipment, hauling, erection and construction on the project was slightly more than seven months. The number of men working was approximately 500. The cost involved was slightly in excess of $4,500,000.

MORE-than a Trade Mark



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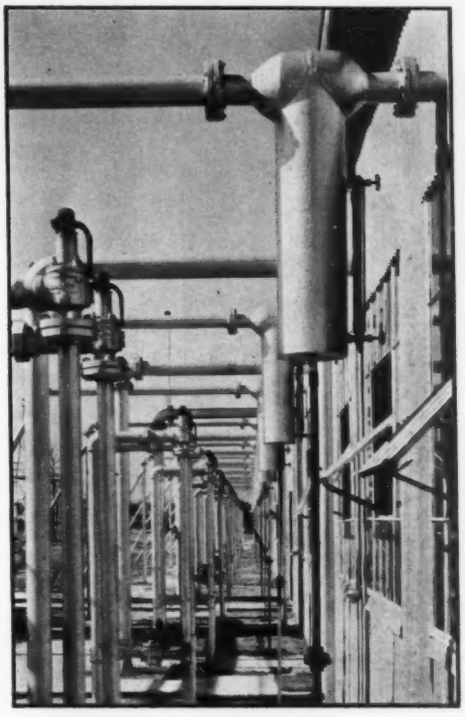
OPERATING IDEAS

Portable Wrench Stand Made From Used Pipe

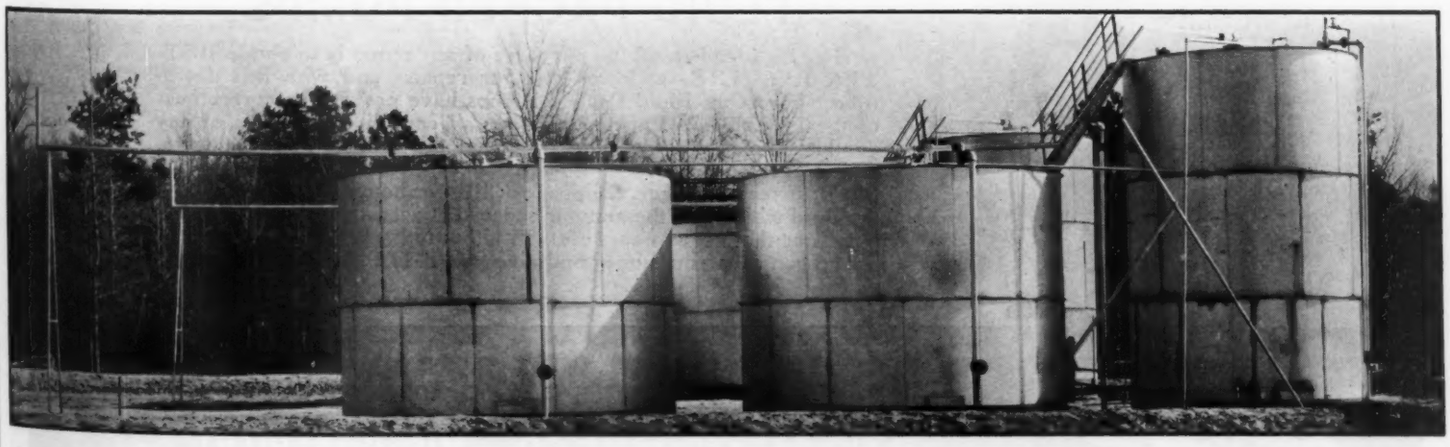
The portable wrench stand shown here was designed by a pipe line company operating a large gas booster station at Wellington, Kans. The stand is made from junk pipe with two channel-iron sections welded to the uprights to serve as bases. Another section of channel-iron forms the top horizontal member and is used to hold small tools and pipe fittings. Wrenches of all sizes are placed on the rack and also an emery wheel and hand die set. Thus whenever an engine or compressor needs repairing the stand may be moved to that location and all tools needed for the repair work can be conveniently reached.

Trap on Compressor Lines

A large natural gasoline manufacturing company in the past has had several explosions in the high-pressure cylinders of the compressors due to moisture accumulating in the lines. Therefore as a preventive measure a large trap was devised, made from 12-inch casing with a bowl welded in the top. Gas enters the trap at the top and is diverted downward by a plate welded in the bowl. Moisture settles in the bottom of the trap while the gas rises to the other side of the plate and goes direct to the compressors. A gauge showing the liquid level in the trap is fitted into the side and when liquid in the trap reaches a certain level the operator removes it through a vertical line fitted into the bottom. This safety measure has proven so successful that the company has installed these traps in some two dozen plants.



Blanketing Lease Storage Tanks With Steam as Fire Precaution



As a safety precaution in case of electrical storms one oil company has equipped its storage tanks as shown here to remove the gas vapors. The 2-inch pipes seen rising and entering the top of each tank and gun barrel are direct connected to the steam line from the lease boiler station. At the first sign of lightning steam is blown through the top of all the tanks in the battery, blowing all vapors from the tank into the lines leading to the risers seen extending to the left. Steam is blown into the tops of the tanks in this manner until the termination of the storm.

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The large cross-sectional displacement area of the "Volume Producer" recommends its use in large volume wells, and in those of normal depth and volume. It is made in three sizes and two lengths —12 and 16 feet. The longer length, having greater seal efficiency, is adapted to deeper wells, lighter oils and lower fluid levels.

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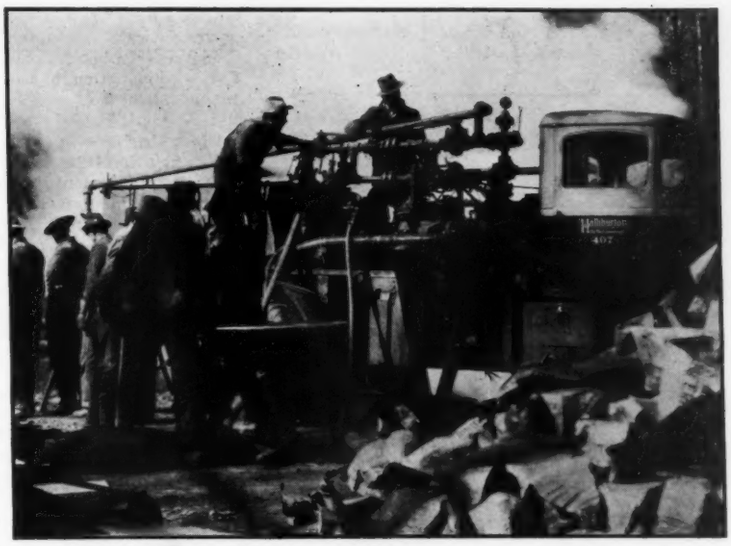
Plug-Back Work in East Texas Increased by New Cements

By MITCHELL TUCKER



Cementing a well in the East Texas field. The two crew members on the truck are closely watching the pressure being built up by the retarded action cement while the well is being cemented

Ecouraged by new materials and methods which have made possible a growing number of successful plug-back or squeeze jobs in the East Texas field for the purpose of shutting off bottom-hole water, it is expected that an extensive reconditioning campaign will be carried on during coming months on many of the present large water wells there.

Straight plug-back work has been done in East Texas for several years, but generally speaking the early jobs gave only temporary relief. Sufficient time has now elapsed since the application of the newer type cements particularly suitable to this work, by the more advanced methods, to give definite indications that the great majority of water shutoff jobs can be expected to be successful. During recent months approximately 300 such jobs have been completed, and at the present time a growing number of from 50 to 100 wells are scheduled for immediate reconditioning.

SALT WATER INCREASING

Behind this extensive campaign is the fact that the daily salt-water production from the field is steadily increasing, and recognizing that the volumetric withdrawal from the East Texas field bears a direct relation to the decline in reservoir pressure, this increasing water volume renders an increasing damage to the reservoir without compensation. Considerable difference of opinion exists as to the maximum fluid withdrawal which may be taken without causing the reservoir to suffer abnormal bottom hole pressure decline, but the figure has been estimated from 375,000 to 450,000 bbls. daily. The salt-water production in July, 1936, was estimated at about 25,000 bbls. daily; in October about 43,000 bbls daily, and indications are that the survey now being made as of January, 1937, will show a considerable increase over the October figure. With the present daily oil allowable already in excess of what some consider the maximum withdrawal, any increase in water adds to the excessive volumetric withdrawal from the reservoir.

Hence, three alternatives if the daily withdrawal figure is to be checked: (1) reduce oil allowables in proportion to the increasing water withdrawal, (2) return a volume of water to the sand equal to the daily water withdrawal, or (3) take immediate steps to reduce the daily salt-water production, or at least check its steady increase.

Obviously, the first recourse is highly undesirable, and perhaps would ultimately result in the loss of large amounts of otherwise recoverable oil, if water withdrawals were not reduced in at least the same proportion. Negotiations and experimental work is progressing for a cooperative plan of returning water to the sand on the western flank, but no immediate relief is promised from this angle.

The third possibility, that of reconditioning large water wells, is before all operators today, and sufficient experimental jobs have now been completed to indicate that highly successful results can be expected from plug-back or squeeze work when properly applied. Experience has shown that as a general rule, a successful job may be expected from any well that has even a very thin section of saturated sand above the water-oil contact (now placed at from 3,300 feet on the western flank and progressing eastward to 3,320 feet, with local variations).

A good number of the early plug-back jobs here appeared successful for a while, but too often water would later break in either through the improperly placed cement, or through roundabout channels in shale breaks or previous red bed streaks in the Woodbine to the well bore above the previous plug-back level. New advancements in the manufacture of cements particularly suitable for this work, enlightened knowledge of the section to be reworked, and the use of modern cementing tools, have all combined to afford a much greater assurance that successful and permanent shutoff can be obtained.

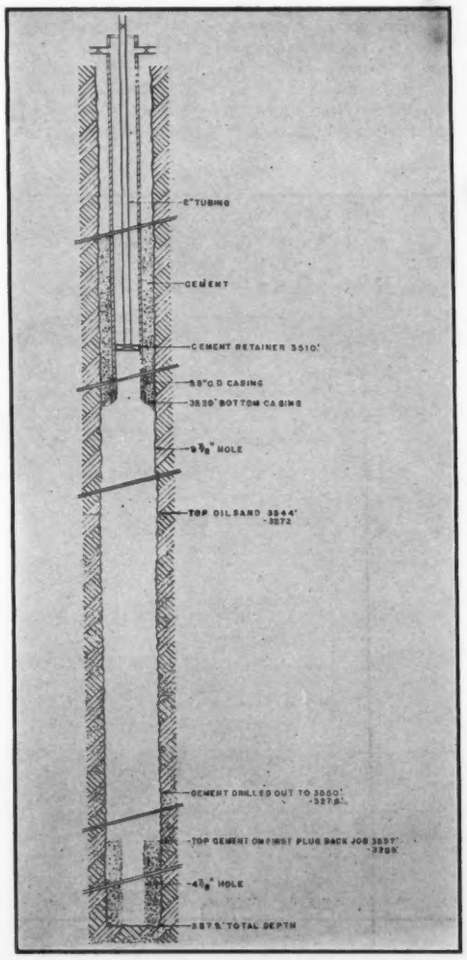


Fig. 1—Squeeze job cementing off salt-water sand

ELECTRICAL LOGS USED

In the first place, the majority of operators recognize the need for a complete knowledge of the sand section, position of shale breaks, actual point of oil-water contact, etc. The detailed logging of the Woodbine here was neglected in most of the hurriedly drilled wells, but when the need for reconditioning presents itself, an accurate log is the first essential. Therefore, in such cases, it is considered desirable to make a Schlumberger electrical survey of the hole before attempting any plugging back in the sand body. The survey, through the indication of low resistivity, shows actual encroachment of water and point of water-oil contact. Also, the porosity log points out position of all shale breaks or impervious streaks. It is then a simple matter to select the first impervious layer above the point of oil-water contact and plug back to it. If the particular well is not located in one of the low-pressure areas which formerly underwent excessive withdrawals, where perhaps water has contaminated practically the entire sand section, a successful job will be assured in a large majority of cases. Even should this be the case, the electrical survey will give indication of the fact before attempting the workover. The varying degree of porosity is indicated by the electrical log, and provides the operator with some idea of the amount of cement and the proper slurry to employ.

Next, the use of the cement retainer is considered necessary by experienced operators under a wide variety of conditions. Many jobs are made possible by the use of this tool in wells cased with old and rotten pipe which otherwise would not be attempted. This tool makes possible the placing and retaining of the cement back into the formation under any pressure desired up to 4,000 pounds or more. The retainer is run on the bottom of tubing and set in the lower joint of casing by

upper and lower slips, placing all pressure on tubing and lower joint of pipe, and minimizing possibility of casing failure. After following the usual practice of breaking down the formation with water, cement follows through the retainer and is placed back into the water-bearing formation at the pressure required. Tubing is backed off, surplus cement and mud washed out, and retainer body left in the hole to be later drilled up after

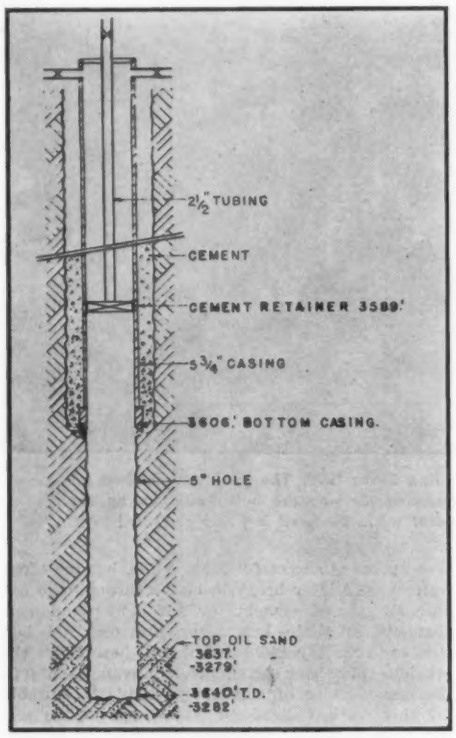


Fig. 2—Cement squeeze job using cement retainer

cement set period. The back-pressure valve in retainer body insures constant pressure during the setting period. The problem of drilling up the retainer was one of some concern to some operators at first, as they considered it desirable to drill up the retainer with rotary instead of cable tools. Portable cable-tool trucks were readily available, but costs of moving in rotary would be almost prohibitive. Portable rotary outfits mounted on trucks are in growing prominence, and that problem is now considered solved. Some discount the possibility that drilling out with cable tools would injure the cement job, however.

To provide still another and important factor in assuring a successful plug-back or squeeze job, operators are universally turning to the use of the newly developed cements having physical properties which make them particularly suitable for this type of work. By reason of their high degree of grain fineness, and gel-like consistency, these oil-well cements do not separate out from their water; a retarded setting action is afforded to permit longer pumping times, with greater pump ability, at higher pressures; and a deeper channeling or penetration of the cement into the formation is assured.

A cement slurry of from 14 to 16 pounds per gallon is pumpable with these cements without sacrifice of other desirable properties, and the contamination with either mud or water is negligible.

Pressures required in this work, of course, bear a close relation to the permeability of the sand, and in East Texas this physical property varies widely with structural position, site of heavy withdrawals, etc. Likewise, the pressures required in squeeze work vary widely from 900 to 4,000 pounds. At no point has difficulty been experienced in dispatching the desired amount of cement back into the formation, after breaking down the formation with a charge of water ahead of the cement.

A few examples of the newer type reconditioning work will serve to show the present procedure being used with success in East Texas.

In one notable instance, 12 feet of sand had been penetrated and well was making 60 per cent water at the time reconditioning work was begun. Original attempt was made to place a "squeeze" upon the water-bearing section through tubing at comparatively low pressure with ordinary cement. For a combination of causes, the tubing was cemented in the hole, necessitating moving in rotary and cutting it out. Immediately after clearing the hole, another type squeeze job was placed upon the well. At a total depth of 3,668 feet, casing set at 3,656 feet, a cement retainer was placed in the 5½-inch casing 4 feet above bottom of pipe, or at 3,652 feet. Water was first introduced through the 2-inch tubing and forced into the formation at 750 pounds pressure. Thirty-two sacks of retarded action cement followed the water and a maximum pressure of 2,250 pounds was built up. Tubing was backed off, leaving the retainer body in the hole to hold back pressure on the formation. After drilling out at the expiration of setting time, the well was swabbed in, making pipeline oil. At the end of four months, recent check revealed this well still producing pipeline oil, flowing by gas lift.

The squeeze job shown diagrammatically in Figure No. 1 was upon a well completed in the latter part of 1932. In September, 1936, the well was making about 25 per cent salt water. First effort to shut off water was made by running 10 sacks of regular cement to plug back 22 feet, from a total depth of 3,579 feet. Testing after completion of this work showed that the well was still making its former water volume. Cement retainer was then run on 2-inch tubing and placed in last joint of pipe at 3,510 feet, or 69 feet off bottom. Water was pumped into the formation at 600 pounds and followed with 100 sacks of improved type cement, which built up a maximum pressure of 1,400 pounds. After lowering the circulating jar 15 sacks of cement were washed out through casing, indicating that 85 sacks were placed into the formation. The well was drilled in with cable tools and salt water found to be completely shut off in this manner. Test made in the early part of January, 1937, showed the shut-off still effective, and well is capable of flowing at the rate of 75 bbls. hourly.

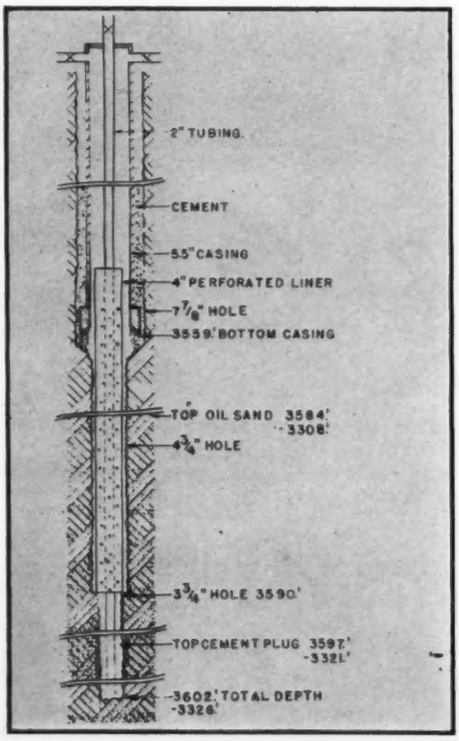


Fig. 3—Squeeze job using a bradenhead to cement off sand through perforated liner

Figure No. 2 shows diagram of a successful job on a well in the thin sand section of the field, where about 75 per cent salt water was being produced. Bottomed at 3,640 feet, only three feet of sand had been penetrated. Retainer was run in 2½-inch tubing and placed in the bottom joint of 5¾-inch casing at 3,589 feet. A small charge of the highly pumpable cement followed the water back into the formation, plugging back to 3,636 feet, 4 inches, and leaving 8 inches of oil sand exposed to the open hole. After drilling out it was found that the former small oil-production had not been reduced, but the water was entirely shut off.

Figure No. 3 illustrates an unusual squeeze job through a perforated liner. Considerable concern has been expressed in the past as to whether or not the liners installed in East Texas wells could ever be removed if desired. Some of them are being removed now with success, but this job and other ones like it remove all doubt that salt water shutoff can be accomplished through the perforated liners.

The bottom of 4-inch full hole liner was placed at 3,590 feet, or 12 feet off bottom. Sand had been penetrated from 3,584 to 3,602 feet. Two-inch tubing was run through the liner to a point very close to bottom and the cement delivered to the hole following a formational break down with water. Pressure was maintained at the bradenhead. The cement was drilled out to within 5 feet of bottom, and of course, the cement did not set opposite the oil saturated sand. That cement which set in the perforations of the full hole liner drilled out easily. Final testing of this job showed that oil production had not been decreased, and the former high percentage of water had been reduced to less than 1 per cent.

Industry to Spend Large Sum for Research in 1937

Industry's 1937 appropriations for research will exceed $250,000,000, it is estimated by Dr. F. R. Weidlein, president of the American Chemical Society, in announcing that 25 of more than 40 sessions arranged for the ninety-third meeting of the society at the University of North Carolina, April 12 to 15, will be devoted to chemical investigations directly fostering industrial progress.

"With corporate earnings rising markedly and with the new tax law favoring legitimate expenditures in increased research, more and more attention is being given to the development of new products and new uses in the industries," declared Doctor Weidlein, who is director of the Mellon Institute of Industrial Research, Pittsburgh, Pa.

"During 1936 the steel industry spent $9,200,000 on these activities—$500,000 more than during the preceding year. The chemical industry, the largest cultivator and supporter of research, has enlarged its expenditures on laboratory investigations. The metal-working field, which during the depression stopped much of its research, is now resuming laboratory investigations on a large scale. Researches have lately been accelerated in the fields of building materials, air conditioning, synthetic fibers, and television."

Seek Arenac Market

MUSKEGON, Mich.—A group of Arenac County oil and gas operators recently formed a committee to promote an adequate market for the gas output of the new field. While most of the wells now drilling in Arenac County have passed up flows ranging from 1,000,000 to 24,000,000 feet, the operators are expected either to plug back their unsuccessful wells to the gas or drill new tests.

W. A. Thomas, of McClanahan Oil Co., was named president, with Bernard M. Jones, Rowmor Corp., secretary. Guy E. Chapman, Devonian Oil Co., geologist; James E. Duffy, Great Western Petroleum Co.; W. C. Mee, independent operator, and Alvin Webber, Webber Oil Co., comprise the committee.

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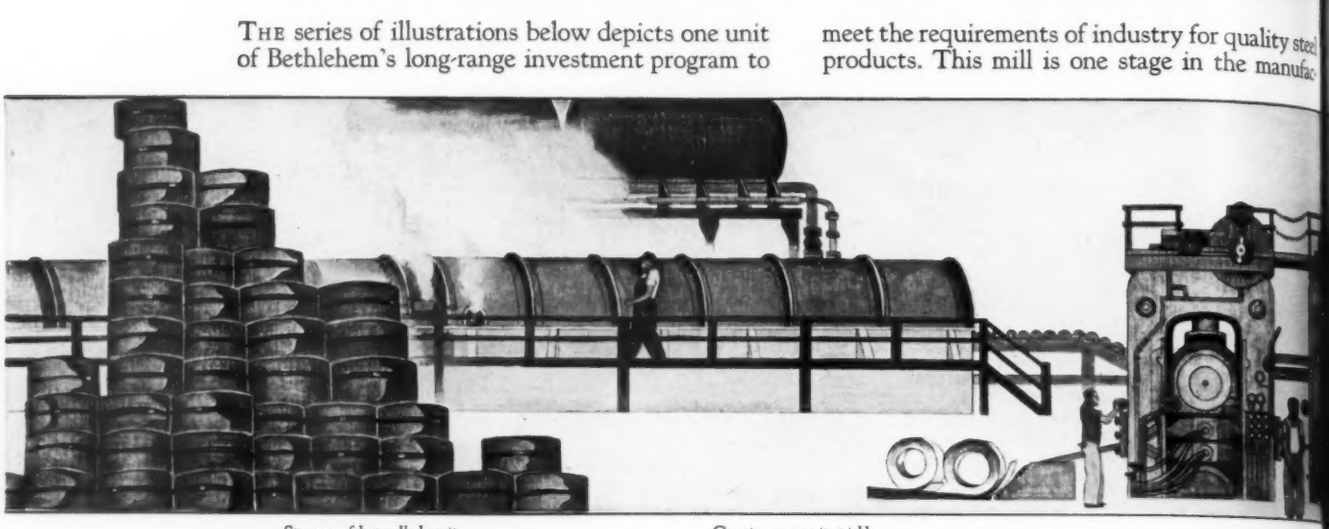
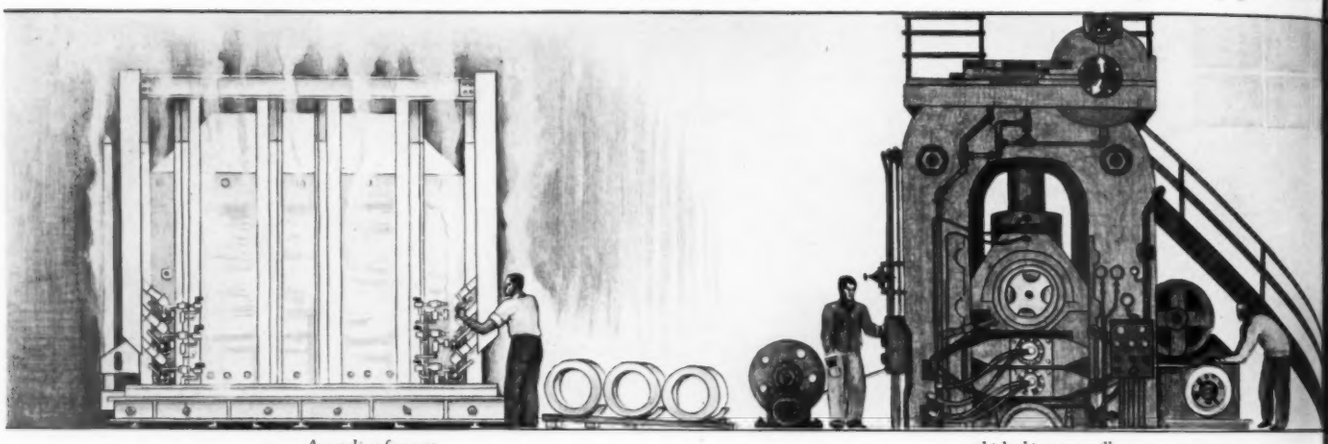
Investment for the Consumer

THE series of illustrations below depicts one unit of Bethlehem's long-range investment program to meet the requirements of industry for quality steel products. This mill is one stage in the manufac-



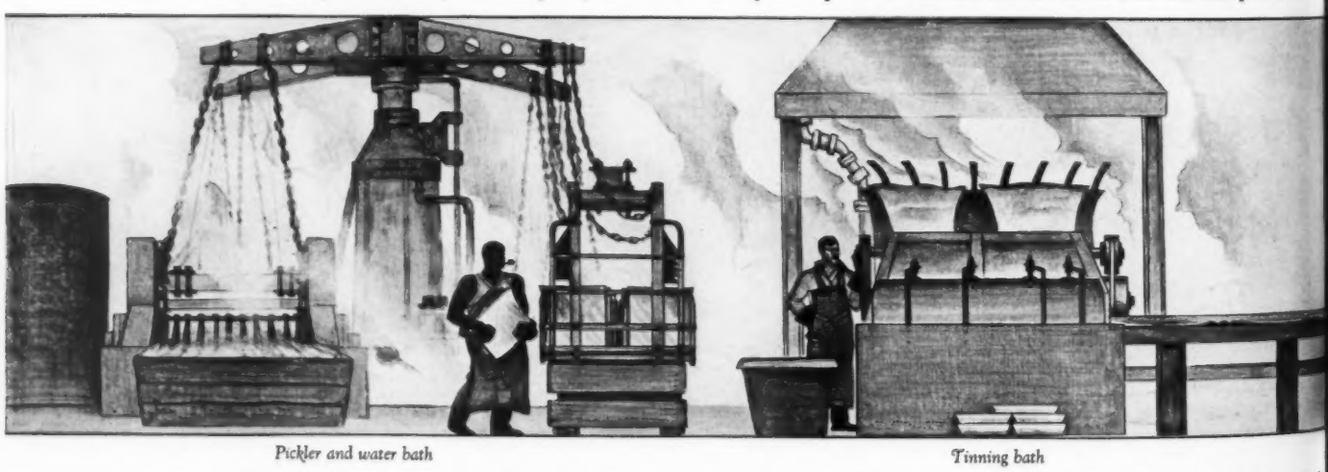
Storage of hot-rolled strip — *Continuous strip pickler*

Three-ton coils of hot-rolled strip go from storage to the continuous pickler, where they are uncoiled and passed through 325 feet of acid and water tanks, removing all scale and dirt. Dried, oiled, recoiled and weighed, they go on to...



Annealing furnace — *4-high skin-pass mill*

Annealing furnaces, where coils are heated to a dull red and slowly cooled for 24 hours. Capacity—600 miles of strip. Then come polishing, tempering, and flattening by a light pass between the mirror-like rolls of the skin-pass mill...

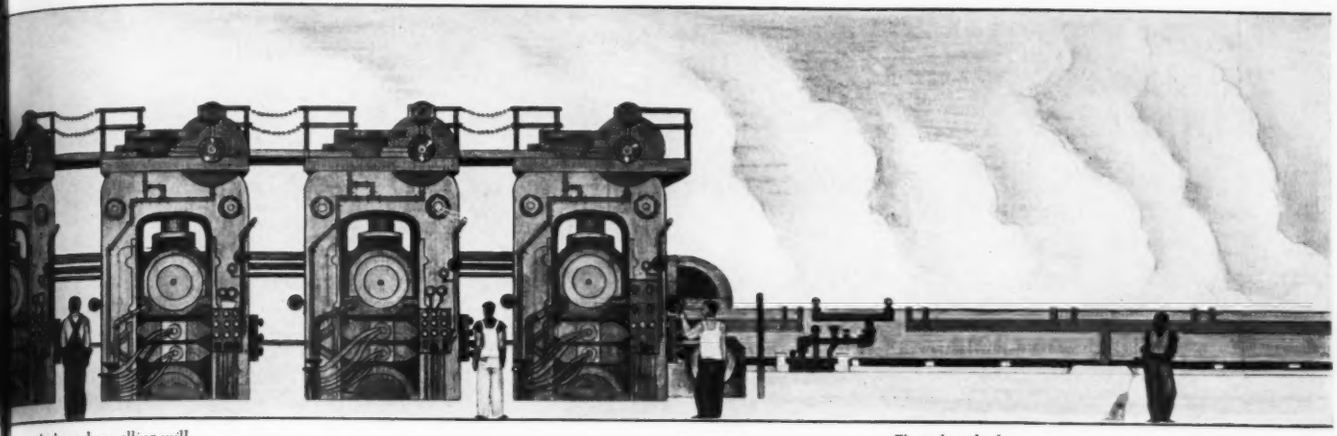


Pickler and water bath — *Tinning bath*

A final pickling, a water bath, and the sheets, still submerged in water, are conveyed to the tinning bath—all in a room where even the ceiling is insulated to keep any condensate from dripping. A final coating of palm oil, a cleaning off of excess oil by rolling through bran chaff, and sheets are ready for their final inspection and sorting.

ture of cold-reduced tin plate. Its high precision and the almost surgical cleanliness maintained in its operation are typical of the exceptional care exercised in the manufacture of all Bethlehem products to fit them for the intended service.

Controlled-cooled rails, electrically zinc-coated wire, improved alloy steels, more durable rock drilling steels are other examples of Bethlehem's manufacture of steel products in step with the widening demands of modern industry.

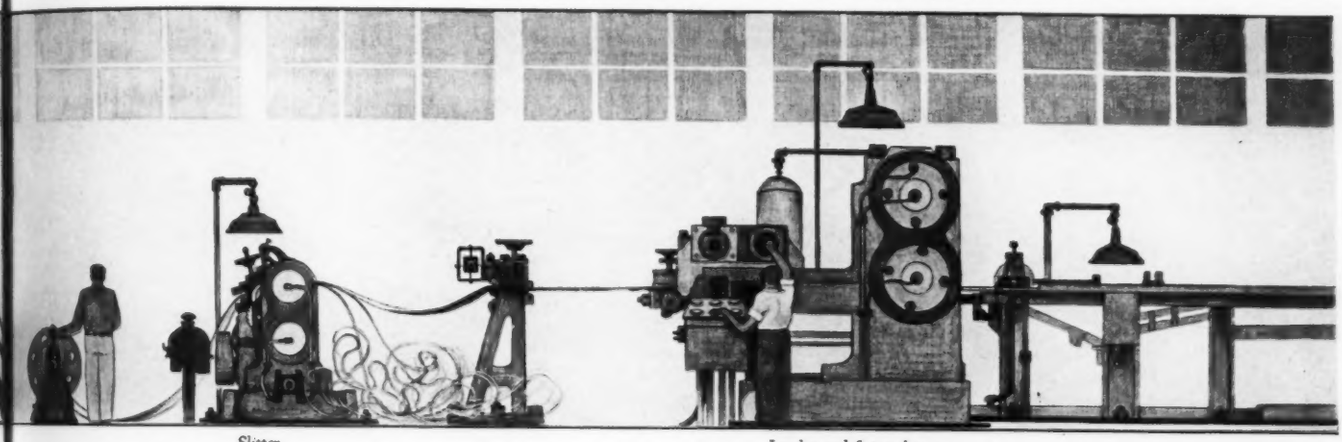


4-high tandem rolling mill

The tandem mill, where they are rolled through five stands down to a thickness of 5 or 10 thousandths of an inch.

Electrolytic bath

Then another washing and scrubbing, this time in an electrolytic alkaline bath. Dried, recoiled, they are delivered to...



Slitter

In another spotless, bright room, coils are once more uncoiled, trimmed to exact width, leveled, and sheared into

Leveler and flying shears

sheets. A testing laboratory checks their physical properties ... an automatic weighing machine classifies them as to gage.

Bran-chaff rolls

Sorting, inspecting and packing

BETHLEHEM STEEL COMPANY

U.S. PACKING
SLUSH PUMP GLAND RINGS
FLUID END
TO FIT SIZE OF PUMPS LISTED BELOW
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ACME 14 x 7¼ x 14"
ACME 15 x 7¼ x 18"
GARDNER 14 x 7¼ x 14"
GARDNER 14 x 7¼ x 16"
GARDNER FXQ x 7¾ x 16"
GARDNER 14 x 7¾ x 18"
GARDNER PWR. x 7½ x 14"
GARDNER FXQ x 7 x 14"
JOHNSON Type J 12 x 6¾ x 16"
LUCEY H—10,000 12 x 6¾ x 14"
LUCEY I—1,000 12½ x 6¾ x 14"
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SIZE J
WEIGHT 5 LBS.
QUANT.
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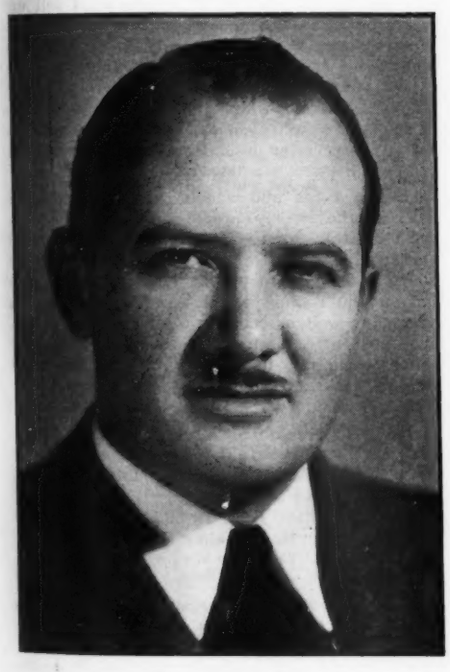
Geophysical Exploration of East Indies Conducted Under Great Difficulties

By NEIL WILLIAMS

Not even such wild tropical jungle swamps as exist in the Dutch East Indies stand any longer as a barrier to geophysical crews, according to J. L. Davidson, who has just returned to his home in Houston after spending nearly three years as a party chief in torsion balance exploration for the Nederlandsche Koloniale Petroleum Maatschappij (Standard-Vacuum subsidiary) in Borneo, Sumatra and Java.

Mr. Davidson's work in the Dutch East Indies took him into some of the wildest and unpenetrable



J. L. DAVIDSON

country in the world, where geophysical exploration was carried on under most unusual and difficult conditions and handicaps. Much of the territory worked never had been traversed even by the natives, let alone white men.

Previous to going with Socony-Vacuum, Mr. Davidson had been a party chief for Humble Oil & Refining Co. for four years, working chiefly in the Gulf Coast of Texas and Louisiana. He had been active in geophysics since the advent of geophysical instruments on the Gulf Coast, starting out with the former Rycade Oil Corp. in March, 1924. He continued with the latter company, and the Amerada Petroleum Corp., working in various parts of Texas, Louisiana and Oklahoma until 1928.

In February, 1934, Mr. Davidson sailed for the Dutch East Indies, where he remained until late in November, 1936. In the Dutch East Indies he made his headquarters at Palembang, located on the southeast coast of Sumatra. The city is about 15 miles up the Moesi River from Songe Grong, immediately on the coast, where the Socony-Vacuum's large refinery, operating offices and camp are located. Opposite Songe Grong is Pladjoe, where the refinery of N. V. de Bataafsche Petroleum Maatschappij (Shell) is located.

Most of Mr. Davidson's geophysical work was done in the Bandjarmasin Basin, a large expanse of low, jungle swamp in the southern part of Borneo. It is believed that most of the fields expected to be found in Borneo will be located in this basin, as most of the surrounding country is mountainous with igneous formations at the surface. Thick alluvial depositions, however, cover the basin. These make useless any attempt at exploration by surface geology. Geologists have confined their work to the edges of the basin, where they have attempted to follow some of the regional "highs" as they dip off into the basin.

One field already has been found in the basin. This, however, is located at Armontai, near the edge. So far development in the basin has been limited to what geophysical work has been done. Other production in Dutch Borneo is located at Balikpapan, on the extreme east coast, and at Tarakan, an island close to the northeast boundary of the Dutch portion of Borneo.

Due to the extent of the Bandjarmasin Basin, and the difficulties of getting around in it, geophysical exploration has been slow and tedious. As yet only a comparatively limited amount of work has been done. Most of the work so far has been by the Socony-Vacuum and the Shell companies, with the latter the most active at this time. The former company has been keeping three parties working, although most of the time only one has been in the swamp basin.

Geophysical work in Sumatra has been attended by less difficulty. A lot of this country is wild but most of the land is fairly high and dry, making it possible for the geophysical crews to get around a little easier. Mr. Davidson did very little work in Java. The island, however, has been fairly well developed by the Dutch, and access to the country is not difficult.

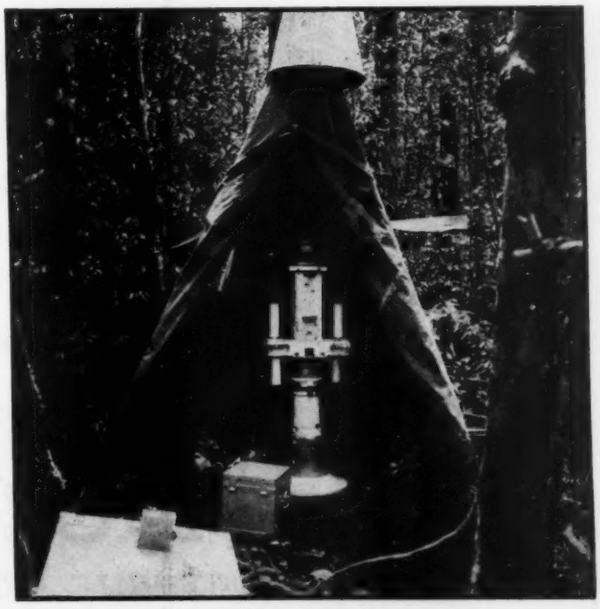
The torsion balance has been used most generally of all the geophysical instruments, and has worked very satisfactorily. In Borneo the magnetometer has been used to some extent, but in Sumatra the magnetic equator, which passes through the island, throws the instrument off. The seismograph was tried but was not satisfactory. However, in this refraction methods were used and with the advent of reflection shooting the difficulties experienced with the older methods are expected to be overcome.

For geophysical work in any part of the Dutch East Indies, an exploratory permit first must be obtained from the Bureau of Mines of the Nederlandsche Indies government. A permit gives the company a year in which to complete its work. Such a permit is entirely separate from a concession, because after exploration has been completed a separate application for a concession for development must be obtained. This is a long procedure and it is possible for a company other than the one which did the exploration to get the concession. Even after a concession is granted, permits to drill are difficult to obtain.

Access into the interior of the Bandjarmasin Basin swamp of southern Borneo is possible only by the various rivers which flow through it. For this reason, exploratory blocks taken are so located that they are bounded by rivers. The blocks usually are about 50 miles long, with one of the main rivers as a boundary, and extend in breadth from 30 to 50 miles to another river. There are sufficient rivers through the swamp that this usually is possible. In this way the crews can work across the block from river to river.

Rivers through the swamp generally are wide and deep, and are navigable for fair-sized boats, which facilitate the movement of supplies and equipment. Some of the rivers are navigable as much as 200 miles inland. All habitation is along the banks of these rivers because between the rivers is nothing but heavily wooded swamp. Few persons, even the natives, have ever attempted to venture back away from the river banks. Indicative of the lowness and swampiness of the country, the rivers, even as much as 200 miles inland in places, are affected by tidal action.

Starting up into the interior of the swamp district, the geophysical party would be prepared to stay at least six months. At the end of six months it would be necessary to return to headquarters to



Torsion balance station set up in jungle swamp in Dutch Borneo

DEPARTMENT OF GEOGRAPHY THE UNIVERSITY OF NEBRASKA

overhaul instruments and replenish supplies. Several tons of provisions, as well as instruments and other supplies, would be taken along. At the start, the party, in addition to Mr. Davidson as chief, would include two assistants and a native surveyor or engineer and 50 to 100 Java coolies. Transportation equipment would consist of a large motor boat, on which Mr. Davidson and his assistants would live en route, two outboard motor speed boats, and sufficient native boats for the movement of all the supplies and equipment. The latter boats would be towed by the motor boat.

The farthest inland Mr. Davidson's party worked at any time was about 200 miles by river, or about a five-day run by boat from headquarters. When on the job, a trip about once a month, sometimes twice a month, would be made by one of the speed boats to carry mail or return any needed supplies. Traveling would have to be done only during daylight due to the danger of hitting floating logs or crocodiles.

Arriving at the block to be worked, a base would be established, from where the party expected to work across the swamp back from the river. As there were no trails it was necessary to cut trails. The procedure was to work across the block from one river to the next, move up about 5 miles and work back to the first river. As a round trip was completed, the base would be moved up the river, and the procedure repeated in succession until the entire block had been worked. Each round trip would require from a month to two months, the distance between rivers across the block varying from 30 to 50 miles. Only sufficient supplies to last the part for the trip across the block and back would be taken. The remainder would be left at the base in charge of native watchmen.

Movements of the party were planned well ahead. Part of the gang was assigned to setting up and establishing stations, while others were detailed to handling instruments. For cutting trails across the country, natives from nearby villages would be hired. In all cases such transactions would be handled through native chieftains, and from 200 to 400 native workers would be available each time. One of the natives with a compass would lead the way for the trail cutters. Due to the swamp land, which was covered with water most of the time, the trail generally had to be bridged. Bridges consisted of large trees which were cut and strung along the way. The natives usually were so adept that they could fell trees in such a way that they would fall in the desired position. Railings then were constructed of smaller trees to permit walking along the tree bridges without stepping off into the swamp.

Working night and day, eight torsion balance stations ordinarily could be made daily. Stations were located about 300 meters (approximately 900 feet) apart. Trail cutters would work far enough ahead to set up camp each day for the party at convenient places. The trail cutters could cut and bridge about 1,500 meters (a little less than a mile) a day, for which they were paid usually about 20 guilders (about $8) each 1,000 meters. It was figured that the average cost per torsion balance station was about $30.

Because of the swamp and the water, the stations usually had to be set up on high platforms, built of cut trees. Often these had to be as much as 3 meters (9 feet) high. The legs would be driven into the ground, and the platform built on top of these. Due to softness of the ground, the legs often would sink as much as 10 to 20 feet into ground without effort before solid soil was encountered. Vines were used for fastening the platform together. Occasionally it would be possible to set the instruments up on the stump of a tree sawed off from 8 to 10 feet above the surface of the swamp. Stumps provided very desirable bases as they were less liable to vibration. Tents served as covering both for the stations and the camps. Flooring consisted of small cut trees.

Heavy rains and sudden rises in the water level of the swamp provided the greatest difficulties. Rains were almost incessant, and frequently it was necessary to suspend work for hours at a time to permit let-up of rains, or a fall in the swamp water. In the swamps, the camps, as well as the stations were set up high, but frequently, even with that precaution, the water would rise up over the floors. Equatorial temperatures and humidity added to the discomfort.

Provisions consisted largely of canned goods, although for fresh meat, live chickens were carried along and killed as needed. Two Chinese and two Malay cooks served the party chiefs while the coolies and native workers had their own cooks. Drinking water was obtained along the way from the swamp and from the rivers, all of which had to be boiled.

As the parallel trails across the block were approximately 5 miles apart, 10 roundtrips would have to be made to work a block 50 miles long. At the end of each roundtrip the base of supplies would be moved up to the next bases, and each time a different group of native trail cutters would have to be hired.

While on one of these expeditions, Mr. Davidson had to be a sort of "jack of all trades." Instrument repairs had to be improvised on the jobs, and sickness and accidents among the workers had to be treated. However, in emergency cases of sickness or accidents, the patients could be taken by speed boat back to headquarters.

Corrosion was one of the most serious problems. Equipment usually had to be painted at least once a month. In a month's time, the paint would peel off, leaving instruments exposed to the elements. A fungus growth which collected on lenses and mirrors of the instruments also gave considerable trouble. At the end of six months on the job, all instruments would have to be taken back to headquarters for complete overhauling.

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LOS ANGELES **SAN FRANCISCO**

Properties of Czechoslovakian, Austrian and Egyptian Oils

By GUSTAV EGLOFF
Universal Oil Products Co.

CONCLUSION OF SERIES ON CRUDE ANALYSES

Concluding the presentation of a series of articles on the properties of representative crude oils produced in foreign countries, Doctor Egloff gives the analyses of crudes produced in Czechoslovakia, Austria and Egypt. This series of analyses began in the December 31, 1936, issue of The Oil and Gas Journal, properties of crudes produced in Iran, Burma, Bahrein Island, Sumatra, Borneo, Sakhalin Island, Trinidad, Columbia, Spanish Morocco, and Germany being given.

Properties of U.S.S.R. crudes appeared in the January 7, 1937, issue, and analyses of crude oils produced in Argentina, Syria, Albania, Greece and Turkey were presented January 21. In the January 28 issue properties of Iraq crude oils were given as well as those produced in China and Italy. The February 4 issue contained analyses of Canadian, Peruvian and Polish crudes and the issue of February 11, analyses of Mexican and Ecuadorian crude oils.

Czechoslovakian oil fields yield two types of oil, namely, a naphthenic crude from the Miocene stratum in the Egbell field and in the Hodonin area, and a paraffinic crude in small quantities from the Bohuslavice, Turzovka and Mikovd regions. There are 11 refineries having a total daily capacity of 10,225 bbls., with one refinery having a cracking capacity of 1,100 bbls.

AUSTRIAN CRUDE OILS

Austria produces a small volume of crude oil. The refinery capacity is 8,150 bbls. per day with no cracking installations. The oil is a mixed paraffin and asphalt base. The light oil derived from three crudes ranges from 11.5 to 29.5 per cent.

	(Gosting)	(Baumgarten)	(Urmansau)
Color:			
By reflected light	dark brown-blue green fl.	dark brown-blue green fl.	dark brown-blue green fl.
By transmitted light	dark brown	dark brown	dark brown
Sp. Gr. at 68° F.	0.9398	0.8950	0.8964
Sp. gr. at 59° F.	0.9428	0.8985	0.8997
Flashpoint (Pensky-Martins), °F.	231.8	185.0	118.4
Burning point, °F.	323.6	267.8	.....
Melting point (20 mm. tube), °F.	—4	28.4	—4
Viscosity at 68° F.	496.8 hrs.=65.67 E.G.	66.2 hrs.=8.74 E.G.	42.9 hrs.=5.72 E.G.
Viscosity at 122° F.	67.8 hrs.= 8.95 E.G.	17.8 hrs.=2.63 E.G.	14.3 hrs.=2.25 E.G.
Viscosity at 212° F.	10.5 hrs.= 1.88 E.G.	5.2 hrs.=1.41 E.G.	.....
Acid number	1.01	0.06	0.39
Refractive index 20/nD at 68° F.	1.4974	1.4845	1.4780
Optical activity	0	0	0
Per cent ash filtered crude	0.36	0.11	0.005
Per cent hard asphalt	Under 0.01	.....	0.05
Per cent paraffin	0.20	2.82	1.26
Per cent sulfur	0.36	0.35	0.69
Asphalt number, per cent by vol.	48	45	28
Higher heat content, calories	10,476	10,583	10,662
Lower heat content, calories	9,844	9,929	9,994
Per cent hydrogen in crude	11.74	12.06	12.37
Per cent coke	3.48	3.17	3.29
Gasoline, per cent	.....	.....	4.0
Kerosene, per cent	11.5	22.0	29.5
Gas-oil, per cent	21.5	18.5	24.0
Residue, per cent	67.0	59.5	45.5
Engler Distillation			
	(°F)	(°F.)	(°F.)
Initial boiling point	442.4	336.2	266.0
Boiling points, °F.—	(Per cent)	(Per cent)	(Per cent)
284	.....	.....	0.2
302	.....	.....	1.0
320	.....	.....	2.0
338	.....	.....	3.5
356	.....	0.5	5.0
374	.....	1.0	6.5
392	.....	2.0	8.0
410	.....	3.0	10.0
428	.....	4.0	12.0
446	.....	5.0	13.0
464	1.0	7.0	14.5
482	2.0	9.0	16.5
500	3.5	11.0	19.5
518	5.0	12.5	22.0
536	7.0	16.0	25.0
554	9.0	19.0	28.5
572	11.5	22.0	30.5
590	14.5	25.0	33.0
608	17.5	28.5	36.5
626	20.0	32.5	41.5
644	24.0	36.0	46.0
662	33.0	40.5	54.5
Residue, per cent	67.0	59.5	45.5
Melting point of residue (20 mm. tube), °F.	23.9	35.6	35.6
Paraffin content of residue, per cent	0.3	4.6	2.8

CZECHOSLOVAKIAN CRUDE OILS

Source—	Egbell Miocene	Hodonin Miocene	Bohuslavice	Turzovka	Mikovd
Geological origin	Sarmatic Str.	Medit. Str.	Eocene	Eocene	Eocene
Depth, feet	493	1,033	295	647	185
Color:					
In reflected light	Brown-green	Red-brown	Green	Green	Black
In transmitted light	Red-brown	Red-brown	Red like ref'd spindle oil	Red	Black
Transparency mm. (depth at which a newspaper can be read)	2	25	85	9	Opaque
A.P.I. gravity	19.8	18.7	49 1	36.7	46.3
Refractive index at 20° C.	1.4979	1.4970	1.4428	1.4665	1.4661
Viscosity (Engler):					
At 20° C.	15.70	10.5	1.01	1.51	1.14
At 50° C.	3.43				
At 100° C.	1.45				
Flashpoint:					
Open cup, °F.	235	237	Below 32	135	Below 32
Pensky, °F.	235	.....	.....	.....	.....
Firepoint, °F.	302	302	Below 32	171	Below 32
Solid point, °F.	0 (liq.)	0 (liq.)	+5 (sol.)	56 (sol.)	0 (liq.)
Org. acids (Mg. KOH 1 gm. oil)	1.43	1.42	Neutral	0.06	0.14
Hanus iodine number	11	13	13.5	11	8.5
Asphalt insol. in alcohol and ether, pct.	0.27	0	0	0.05	1.13
Sulfur, per cent	0.25	0.20	0.26	0.24	.....
Paraffin, per cent	0	0	2.3	7 9	3.6
DISTILLATION, PER CENT BY WEIGHT					
Initial B.P., °F.	419	410	135	280	131
To 356 per cent	.....	.....	37 (0.7235)	.....	30.5 (0.717)
356-392 per cent	.....	.....	10 (0.760)	1 (0 779)	7.5 (0.755)
392-482 per cent	3.5 (0.878)	3	29 (0.800)	29 (0.795)	23 (0.789)
482-572 per cent	28.5 (0.896)	28.0	9.5 (0.849)	22 (0.836)	11 (0.828)
Residue, per cent	67.5 (0.953)	67.0	14 (0.887)	47 (0.868)	27 (0 888)
Properties of residue:	Liq. at 5° F. No paraffin Soft asphalt	Liq. at 5° F.	Fire above 81° F. Paraffin 16.1% Soft asphalt 0.03%	Fire above 79° F. Paraffin 16.7% Soft asphalt 0.55%	Fire above 76° F. Paraffin 1.3% Soft asphalt 3 85%

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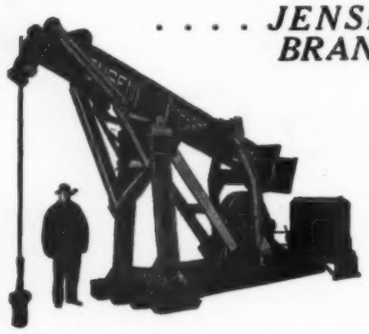

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EGYPTIAN CRUDE OILS

Crude oil from three fields in Egypt, Hurghada, Gemsah and Abu Durba differs widely in character. The productive depths range from 1,290 feet to 2,000 feet. Hurghada crudes yield 8 per cent gasoline containing 11 per cent aromatics and 23 per cent naphthenes, and those from Gemsah 27 per cent.

Petroleum was known to occur and used in Egypt during early times, large commercial production started in 1885. There are two refineries with a total daily capacity of 11,500 bbls. and a cracking capacity of 2,000 bbls.

Properties of Egyptian Crudes

	Hurghada	Gemsah	Abu Durba
Specific gravity at 15.5° C.	0.907/0.925	0 827	0.945/0.960
Sulfur, per cent	2.22 approx.	0.65	2.35
Asphalt, per cent	10-11 (insol. in pentane)	0.63	10.5 (hard)
Paraffin wax, per cent	7- 8	4.94	5-6 (waxy resin)
Paraffin wax, m.p., °F.	117.5	116	.....
Flashpoint (closed test), °F.	Below 45	....	Over 100
Viscosity (Redwood No. 1 at 100° F.), secs.	396	....	3,000
Distillation products:	%	%	%
Gasoline (below 150° C.)	8	27.0	} 20
Kerosene (150°-290° C.)	15	32.4	}
Residue	76	39.8	.....
Loss	1	0.8	.....

Analyses of Charging Materials

	86% asphalt distillate and 14% pressure distillate bottoms	Wax distillate	90% asphalt distillate and 10% pressure distillate bottoms	78% asphalt distillate 12% PD bottoms and 10% Egyptian solar
Gravity, °A.P.I.	25.0	24.1	25.4	25.5
Initial B.P., °F.	347	342	338	333
Flashpoint (Cleveland open cup), °F.	199	....	146	194
Pour test, °F.	80	....	....	75
B.s. and W., per cent	0–1	....	0.1	0.1
Viscosity (Saybolt-Universal), sec. at 122° F.	51	....	48	45
°F.	Per cent distilled over			
437	10.0	4.0	9.0	11.0
482	18.0	6.5	17.0	19.0
527	24.0	8.0	24.0	25.0
572	31.0	18.0	30.0	32.5

Pressure Distillate Oil

The pressure distillates from the cracking of the four oils derived from Hurghada crude, showed the following properties:

Gravity, °A.P.I.	50.1	51.1	51.5	50
Initial B.P., °F.	104	106	111	100
Sulfur, per cent	1.3	....	1.2	....
Lovibond color	4+	....	4+	4+
Per cent distilled over:	Temperatures, °F.			
10	165	157	169	160
20	210	207	208	201
30	252	246	250	244
40	288	284	286	282
50	322	322	318	318
60	342	360	340	342
70	372	387	372	372
80	397	419	396	402
90	426	453	424	433
Endpoint	469	504	457	480

Cracked Gasoline

Gravity, °A.P.I.	11.1	....	....	....
Specific gravity at 60° F.	1.083	....	....	....
Initial B.P., °F.	347	....	....	....
Flashpoint (Cleveland open cup), °F.	295	....	....	....
Viscosity (Saybolt-Universal), sec. at 122° F.	99	....	....	....
Congeal point, °F.	50	....	....	....
Base sediment and water, per cent	0.4	....	....	....
Per cent distilled over at 572° F.	8	....	....	....

Flashed Residue

Gravity, °A.P.I.	9.6	10.6	10.2	....
Specific gravity at 60° F.	1.002	1.079	1.076	....
Initial B.P., °F.	....	415	427	....
Flashpoint (Cleveland open cup), °F.	99	165	275	....
Viscosity (Saybolt-Universal), sec. at 122° F.	486	107 (212°)	100 (212°)	....
Congeal point, °F.	15	45	50	....
Base sediment and water, per cent	0.7	0.8	0.7	....
Per cent distilled over at 572° F.	....	6	10.5	....

Natural Gas Wastage in North Louisiana Greatly Reduced

At one time it was estimated that gas wastage in the Rodessa field was 600,000,000 feet daily, or about half the daily domestic consumption of the United States. The reallocation of production and injection of the 2,000 to 1 gas-oil ratio factor in the field has practically eliminated all waste now. Some residue gas from plants not having a market for that product is the only natural gas wastage in the Rodessa field today.

The North Louisiana territory has long been one of the few that had had a surplus of natural gas, and its facilities for transmission of this product have been to the economic limit for some time.

United Gas System's expansion program now in the stage of completion, provides it with practically any amount of gas needed for its extensive transmission and domestic distribution lines along the Gulf Coast, serving such cities as Houston, Port Arthur, Beaumont, San Antonio, Austin, and others. It is processing 140,000,000 feet of gas daily through its Myrtis gasoline plant, delivering the residue to the transmission system. Furthermore, it is equipped to by-pass any amount of Rodessa gas around this plant needed for peak loads or demands in its transmission system, and at times this winter almost 200,000,000 feet daily was delivered to its transmission lines south from Rodessa.

This company is now reported negotiating for the purchase of Rodessa townsite wells recently reclassified as gas wells under Louisiana's new proration order. Such wells are unprofitable to individual owners, but if United is successful in obtaining them at prices they are offering, will be highly valuable to them for their distribution service.

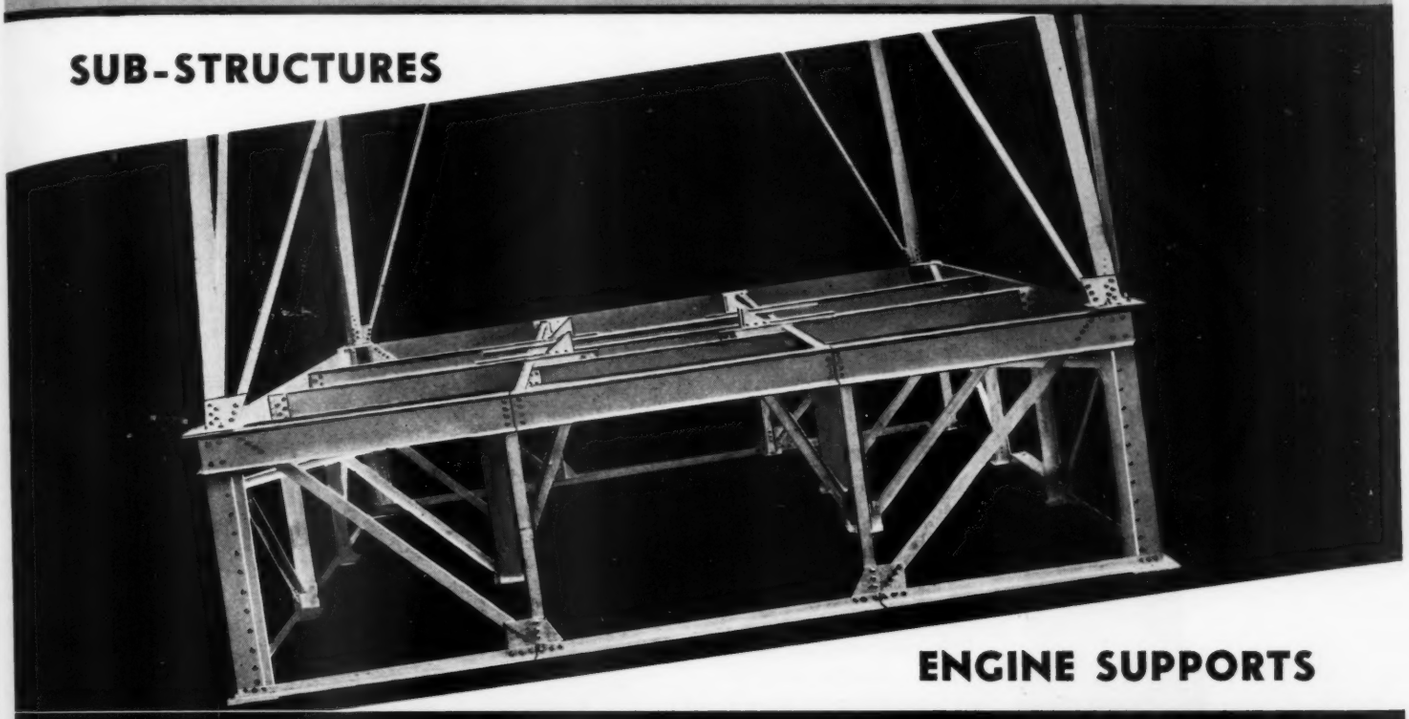
The Arkansas Natural Gas Corp. and affiliated companies is in a favorable position in so far as its supply and demand is concerned, as it also has a surplus for its extensive transmission and distribution system serving Shreveport, Little Rock, Fort Smith and intermediate territory. It has potential reserves in the newly discovered deep gas fields near Ruston and Sibley, La., where it has transmission lines nearby.

The huge Monroe-Richland gas field of Union, Morehouse and Ouachita parishes now comprises about 175,000 acres and has produced to date approximately 2,000,000,000,000 feet of gas. Gas trunk lines from this field to St. Louis, Little Rock, Memphis, Birmingham, Atlanta, Mobile, Pensacola, Baton Rouge, New Orleans, Shreveport and Alexandria, and all intermediate points.

The entire field here is not completely drilled up, and gas wells ranging in potentiality from 1,000,000 to 30,000,000 feet are methodically being completed here monthly.

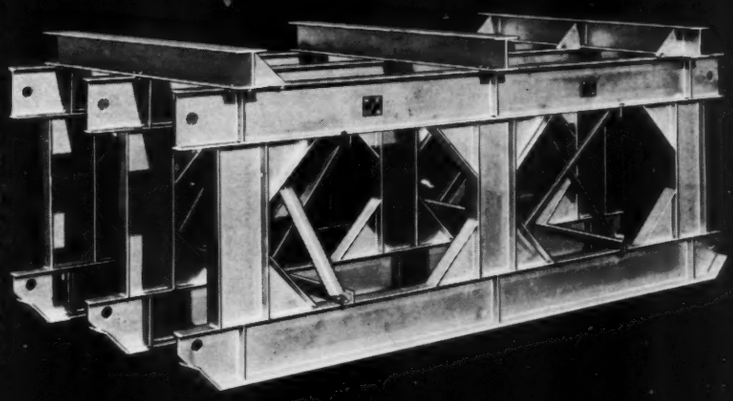
M.I.W. STEEL DERRICKS

SUB-STRUCTURES



ENGINE SUPPORTS

M.I.W. Sub-Structures and Engine Supports are available at all stocking points. They are built according to the Steel Derrick Manufacturer's Association standard specifications and distinguished by ample sturdiness, convenient design and ease of erection. Every section and integral part of every M.I.W. Sub-Structure and Engine Support is correctly designed, accurately finished and made of the very best material. That's why they insure quicker and easier erection—greater strength and dependability.



Complete Stocks Available For Every Point in Mid-Continent Field.

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MUSKOGEE IRON WORKS

STEEL DERRICKS SUBSTRUCTURES ENGINE BASES FRAMING SILLS
RIG FRONTS SKID-TYPE HOISTS

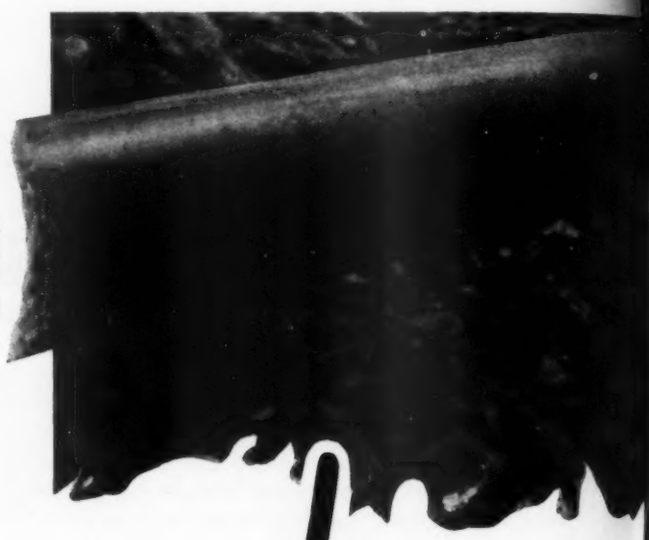
1802 Esperson Bldg. Houston, Texas | Gulf States Bldg. Dallas, Texas | Main Office and Plant Muskogee, Oklahoma | Thompson Bldg. Tulsa, Oklahoma | Kilgore, Texas

BJ TOOLS HELPED *Produce* THE OIL . . .

Through the new SHELL PIPE LINE flows the oil from many wells on all of wh.ch BJ OIL TOOLS played their part in providing Safe, Convenient and Economical handling of drill pipe, casing and tubing.

BJ TRIPLEX HOOKS

with BJ Weldless Links and BJ Slip Casing Elevators all are made in sizes to meet the requirements on wells of any depth.



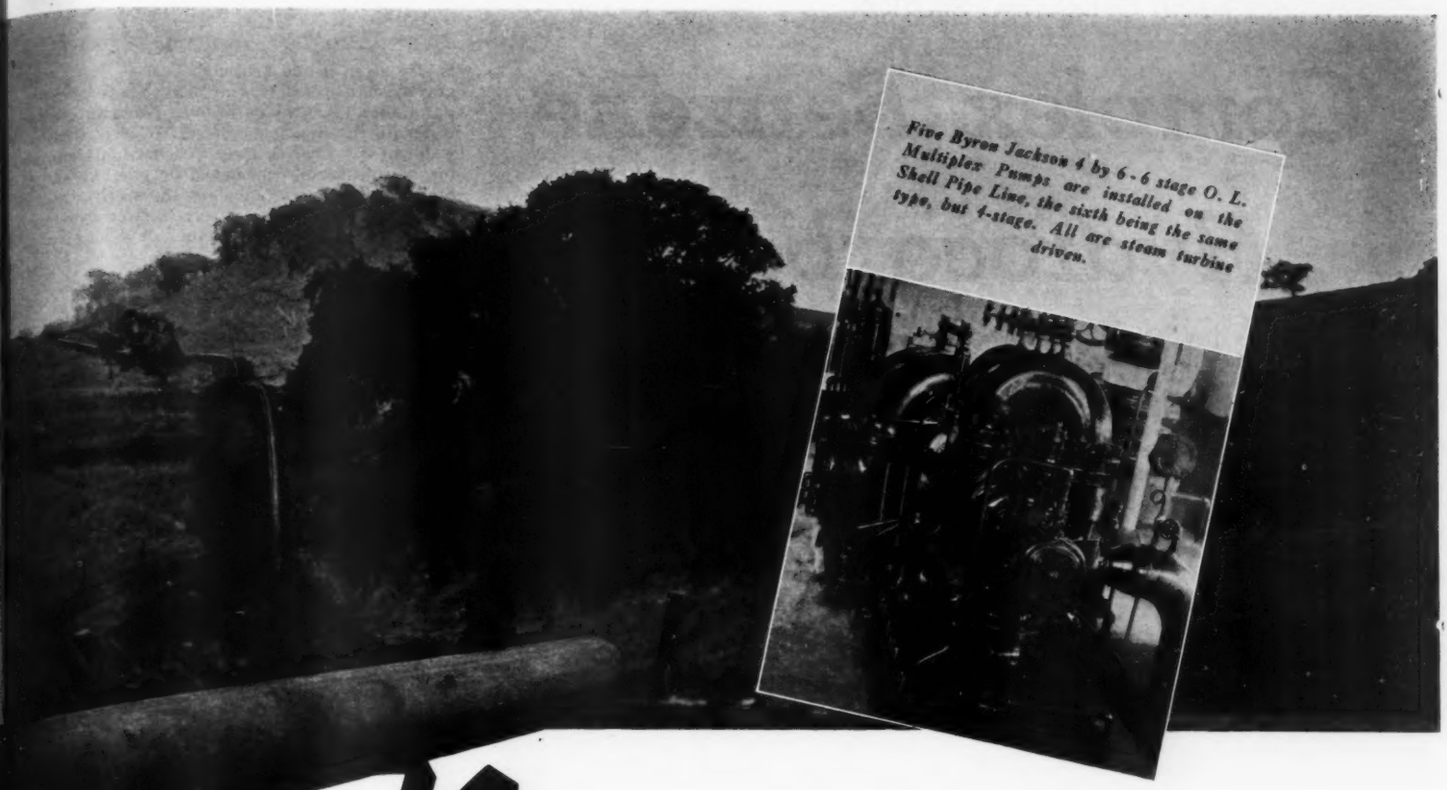
BJ TONGS

The Extra Heavy Rotary and Casing Tong illustrated, is used in every active oil field. Other models are made to handle all sizes of tubing, drill pipe and casing from 1¼" to 24½" in diameter.

See the BJ Section, starting on Page 360 in the 1937 Composite Catalog—or request a copy of the large BJ Catalog.

BYRON JACKSON CO.
AND SUBSIDIARY
PORT WORTH • LOS ANGELES • NEW YORK

BJ DRILLING and PRODUCTION TOOLS



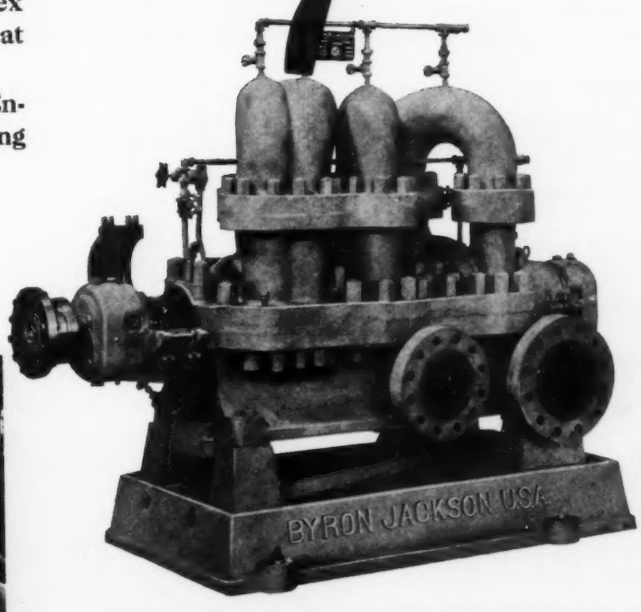
Five Byron Jackson 4 by 6-6 stage O. L. Multiplex Pumps are installed on the Shell Pipe Line, the sixth being the same type, but 4-stage. All are steam turbine driven.

BYRON JACKSON PUMPS ARE *Moving* IT!

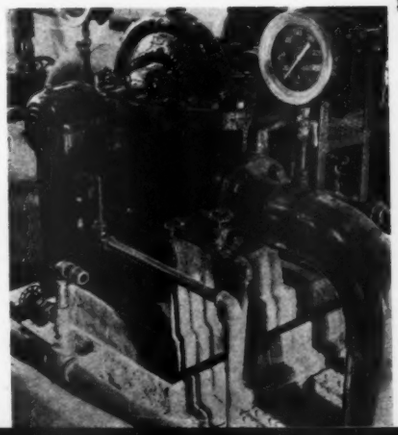
In each of the six stations from Canola to Martinez you will find a BYRON JACKSON Oil Line Multiplex Pump, delivering up to 560 gallons of oil per minute, at 765 lbs. maximum discharge pressure.

These pumps were specified by Shell Oil Company Engineers because of their proved efficiencies, their long life, and their marked economy of operation.
We are proud of the part they play in the successful operation of this modern pipe line.

BYRON JACKSON CO.
Berkeley - LOS ANGELES - Bethlehem



Widely used by the Oil Industry, Byron Jackson "O. L." (Oil Line) Pumps are of extremely rugged construction. Note the long external cross-overs which provide good hydraulic lines between stages, thus increasing efficiencies.



Byron Jackson Type S Pumps, also steam turbine driven—deliver water for fire protection at the rate of 350 gallons per minute, at 150 lb. discharge pressure.

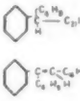
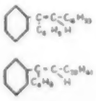
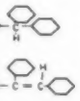
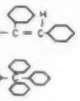
BYRON JACKSON CENTRIFUGAL PUMPS

Complex Benzene Hydrocarbons

By W. L. NELSON

The properties of the simple benzene derivatives were tabulated on page 39 of The Oil and Gas Journal of February 4, 1937, and the properties of the naphthalene and anthracene derivatives will appear in a later issue of the Journal. The system used for naming the hydrocarbons is also given in the February 4 issue. The specific gravity data were given at many temperatures by the authors, but the data given herewith are corrected to the common basis of 60° F. referred to water at 60° F. using the coefficients of expansion for petroleum oils published by the Bureau of Standards. However, some of the specific gravity data were given at relatively high temperatures, and in these cases the original data as given in the references were used.

COMPLEX BENZENE DERIVATIVES

Hydrocarbon—	Formula	Structore	Molecular weight	Sp. gr. 60/60	Boiling point °F.	Melting point °F.	Heat of combustion B.t.u./lb.	Saybolt viscosity 100° F.	Saybolt viscosity 210° F.	Viscosity index
Octadecyl benzene	$C_{24}H_{42}$		330.3	.861[23]	....	95.7[23]	.....	58[23]	36.5[23]	196[20]
1-2 Dioctadecyl benzene	$C_{42}H_{78}$		580.6	.857[23]	....	156.2[23]	.....	225[23]	58.5[23]	153[22]
Trioctadecyl benzene	$C_{60}H_{114}$		834.9	.857[23]	....	115.7[23]	.....	438[23]	78[23]	140[20]
Duocosyl benzene	$C_{28}H_{50}$		386.4	.856[23]	....	109.4[23]	.....	75.5[23]	37.9[23]	164[21]
5 Phenyl duocosane	$C_{28}H_{50}$		386.4	.861[21]	....	100.4[21]	.....	86.3[21]	39.4[21]	138[22]
5 Phenyl hexacosane	$C_{32}H_{58}$		442.5	.859[23]	....	89.6[21]	.....	116.5[21]	42.7[22]	152[21]
5 Phenyl duocosene-5	$C_{28}H_{48}$		384.4	.874[23]	....	....	.....	79[21]	38.8[21]	150[22]
5 Phenyl hexacosene-5	$C_{32}H_{56}$		440.4	.865[23]	....	....	.....	109[21]	42.5[21]	162[21]
.....	$C_{56}H_{92}$		692.7	.857[23]	....	88.7[21]	.....	394[23]	70[23]	136[20]
.....	$C_{56}H_{84}$		692.8	.853[23]	....	149[21]	.....	370[23]	67.1[21]	136[20]
Biphenyl methane	$C_{13}H_{12}$		168.1	1.007[20]	501.8[20]	78.8[20]	17,730[3]	....	...	...
Bibenzyl	$C_{14}H_{14}$		182.11	.998[20]	543.2[20]	126.5[20]	17,860[3]	....	...	...
1-1 Biphenyl hexadecane	$C_{25}H_{42}$		378.3	.916[22]	....	....	.....	112[22]	40.4[22]	108[21]
1 Phenyl-2 benzyl heptadecane	$C_{30}H_{46}$		406.4	.920[20]	....	....	.....	164.3[21]	43.2[22]	85[21]
Triphenyl methane	$C_{19}H_{16}$		244.1	1.014[20]	678.6[20]	198.5[20]	17,500[3]	....	...	...
Triphenyl ethylene	$C_{20}H_{18}$		256.13	...	....	161.6[20]	17,500[3]	....	...	...
Tetraphenyl methane	$C_{25}H_{20}$		320.2	...	807.8[20]	545[20]	17,400[3]	....	...	...
5-14 Biphenyl octadecane	$C_{30}H_{46}$		418.5	.911[21]	....	....	.....	160[21]	43.5[21]	92[21]
5-14 Biphenyl octadecadiene 5-13	$C_{30}H_{42}$		402.3	.937[23]	....	....	.....	135.7[21]	42.5[21]	110[21]

BIPHENYL DERIVATIVES

Biphenyl	$C_{12}H_{10}$		154.08	1.17[20]	489.2[20]	158[20]	17,450[3]	....	...	...
5 Biphenyl duocosane	$C_{34}H_{54}$		462.4	.905[23]	....	107.6[23]	.....	266.5[23]	52[23]	111[21]
P-octadecyl biphenyl	$C_{30}H_{46}$		406.4	.920[23]	....	172.4[23]	.....	140[23]	44.2[23]	131[21]
P-duocosyl biphenyl	$C_{34}H_{54}$		462.4	.916[23]	....	181.8[23]	.....	182[23]	49.5[23]	141[21]
5 Biphenyl duocosene-5	$C_{34}H_{52}$		460.4	.918[22]	....	98.6[23]	.....	255[23]	51.5[23]	112[20]
5 Biphenyl hexacosane	$C_{38}H_{62}$		518.5	.932[23]	....	111.2[23]	.....	337.5[23]	58.5[23]	111[21]
5 Biphenyl hexacosene-5	$C_{38}H_{60}$		516.5	.912[23]	....	100.4[23]	.....	306[23]	56.7[23]	123[21]

REFERENCES

3. Parks and Huffman—"Free Energies of Some Organic Compounds," Reinholt Pub. Co., New York, 1936.
20. "Handbook of Chemistry and Physics," Chemical Rubber Pub. Co., Cleveland, Ohio.
21. Mikiska, L. A.—"Chemical Structure of Lubricating Oils," Ind. Eng. Chem., 28: 970, 1936.
22. Rossini, F. D.—"Chemical Constitution of Lubricating Oils," Ref. & Nat. Gaso. Mfg., 14, 268, June, 1935.

Complete Program for District A.P.I. Meeting Announced

Final program for the meeting of the Mid-Continent district of American Petroleum Institute production division to be held in Tulsa at Mayo Hotel, February 25 and 26, is given herewith.

The technical meetings will start at 10 a.m., Thursday, February 25, with Mayor T. A. Penny welcoming visitors and response by Frank Phillips, president, Phillips Petroleum Co., Bartlesville, Okla. This meeting will be held in the Crystal Ballroom of Mayo Hotel and G. A. Holloway, chairman of the district, will be in the chair with C. A. Daniels, Phillips Petroleum Co., Amarillo, Tex., and M. L. Terry, the Texas Co., Tulsa, assisting.

The first technical paper will be presented by H. M. Stalcup, Skelly Oil Co., Tulsa, and is entitled "Resume of the Panhandle Gas Problem." The next speaker will be Joseph E. Pogue, Chase National Bank, New York City, who has chosen for his subject, "Conserving Prosperity in the Petroleum Industry."

The afternoon session starts at 2 p.m. with Oscar Hatcher, consulting engineer, Ada, Okla., acting as chairman assisted by A. S. Ritchie, McPherson Drilling Co., Wichita, Kans., and G. M. Shaner, Phillips Petroleum Co., Oklahoma City, Okla. "Fitts Pool-Geology-Development," by K. B. Teis and Maurice Teis, E. H. Moore, Inc., Tulsa, is the first paper. "Water-Flooding in the Mid-Continent Area," by Lawrence E. Smith follows. D. M. Auld, Phillips Petroleum Co., Bartlesville, Okla., is scheduled to present a paper on "Portable Rigs for Shallow Drilling" and the session closes with a showing of motion pictures of the construction of San Francisco bridges.

Max Mahaffey, Empire Oil & Gas Co., Pampa, Tex., is the chairman for the Friday morning technical session to start at 10 a.m. with F. W. Floyd, Carter Oil Co., Tulsa, serving as co-chairman. The meeting starts with a showing of motion pictures of 1936 International Petroleum Exposition. A. W. Walker, Stanolind Oil & Gas Co., Tulsa, will present a paper on "Modern Well Completion Methods," followed by C. P. Parsons, Halliburton Oil Well Cementing Co., Duncan, Okla., on "Plugging Back Wells to Exclude Water."

C. O. Rison, I. T. I. O. Co., Oklahoma City, will be the chairman for the afternoon session Friday and he will be assisted by H. D. Collins, Gulf Oil Corp., Tulsa, and H. E. Zoller, Shell Petroleum Corp., McPherson, Kans.

The first paper will be on "Asphixiation," by Frank B. Long, Oklahoma Natural Gas Co., Tulsa. Theo A. Morgan, Kansas state oil umpire, Wichita, Kans., will talk on "Potential Methods in Kansas" and the meeting will close with a paper by C. M. Copeland, Helmerich & Payne, Tulsa, Okla., on "Truck Mounted Rotary Drilling Rigs."

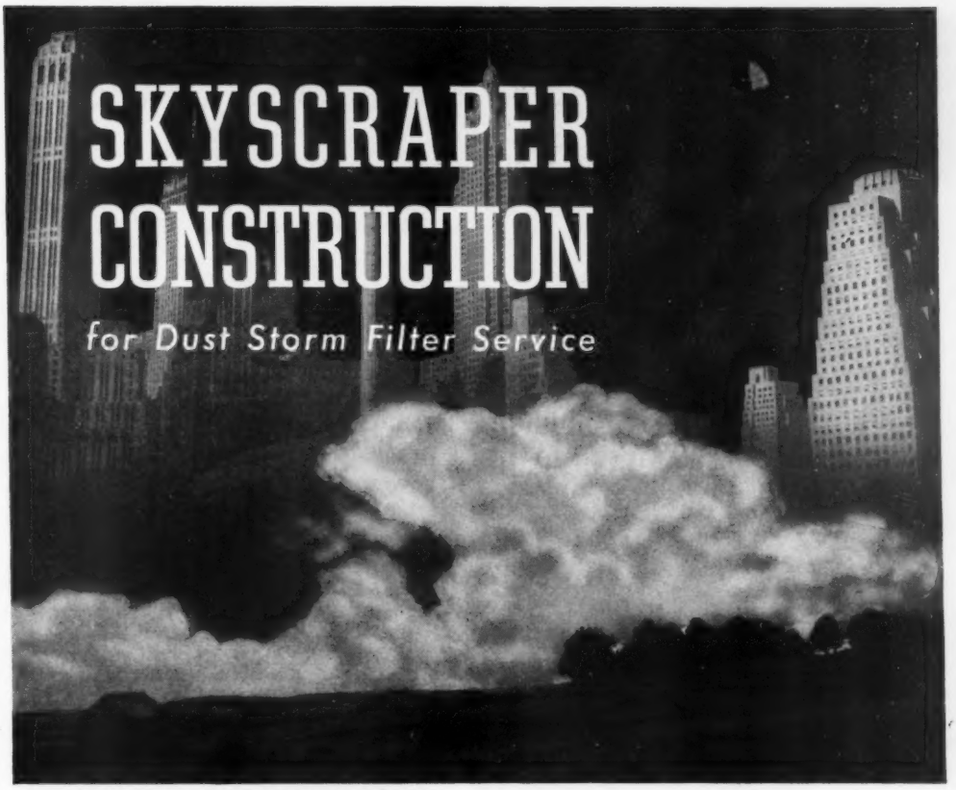
Cylinder Scuffing Reduced

A graphic story of just what happens in an engine when starting up in cold weather was presented at the annual meeting of the Society of Automotive Engineers in Detroit.

It has long been known that more cylinder and piston wear normally occurs when starting than in miles of running—particularly in cold weather. To check the effect of lubrication on this, a group of three identical aluminum alloy pistons were selected for a test. One of the three was finished in the conventional manner. A second piston was plated with bearing metal and installed in a cylinder with conventional lubrication. The third piston was also plated and installed in the test engine in combination with the new Graham-Paige system of instantaneous cylinder pressure-lubrication.

The engine was placed in a cold-room and started, shut off again, allowed to cool, and started again. After only 12 such starts the unplated piston had "scuffed" badly.

The second and third pistons were not removed until after eight more starts—a total of 20. The plated conventionally lubricated piston showed no bad scuffing, but did show definite score marks in the metal with which it had been plated. The third piston showed no scoring or marks whatsoever, indicating that lubrication became effective the instant the engine was started.



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Hard service in dust-storm areas was in the designer's mind when a modern steel framework was decided upon for the Coppus Air Filter. Built with a minimum number of welds, the Coppus will stand up. There are no narrow openings to clog with dust when the air gets thick. This dry-type filter cleans itself — through pulsation of air flow — under most conditions. The efficiency is high: 99.9% even against 10 micron-size dust, and 95.6% for 2 micron silica dust.

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CLEAN AIR FOR MEN AND MACHINES COPPUS

Other products: filters for industrial and general ventilation; Heat Killers; exhausters, ventilators and blowers of many types; steam turbines. See Sweet's Catalogs, Composite Catalogs.

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Rigid laboratory tests prove that "X-L" Tubing Couplings withstand internal pressure many times greater than rated capacity and remain in perfect shape, fit for actual use. Our patented process of recessing means concentricity of recess in combination with threaded section of coupling, assuring accuracy in alignment of joints. Made to A.P.I. Standards.

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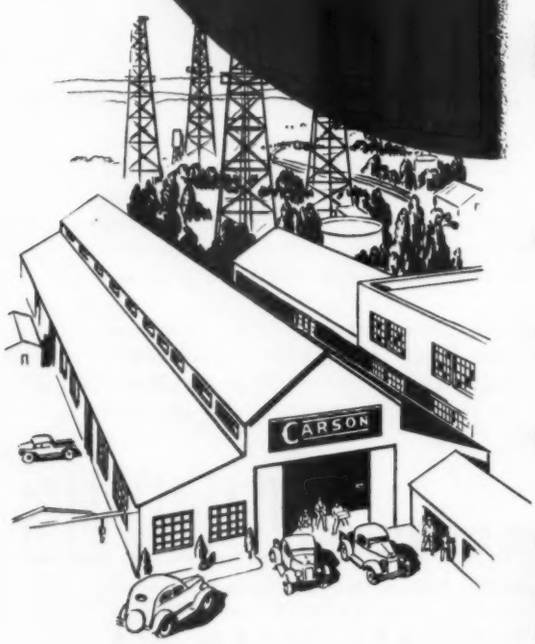

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Double Valves, Turbulent Seal and Precision machining of better materials provide Greater Efficiency . . . Longer Life.

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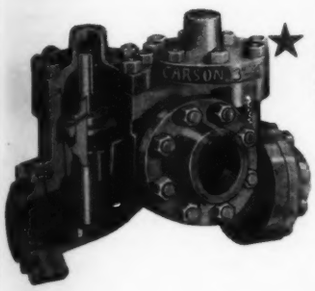
★ **CARSON'S "SLO-CURVE" MANIFOLD AND STAND-PIPE FITTINGS . . .** Note the gradual curve and the extra thickness of metal on outer portion of curve to resist cutting action of fluid for a longer period of time.

★ **CARSON'S SPECIAL LINERS . . .** Carson carries one of the largest stocks in America of Blank Forgings for manufacture of reduced liners for all makes of slush pumps, and give twelve hours service on any special order.



★ **AUTOMATIC MANIFOLD VALVE . . .** All users proclaim it the perfect Slush Pump Manifold Valve.

★ **CARSON'S AUTOMATIC "T" VALVE . . .** A three thousand pound working pressure manifold valve designed to meet all desired manifold installations. Check its advantages for your requirements.

★ **CARSON'S "BULL-DOG" WIRE LINE ANCHOR . . .** For holding dead end of line in drum.

★ **MANUALLY OPERATED MANIFOLD or STAND-PIPE VALVE . . .** To be used on jobs that require two stand-pipes or where it is necessary to compound the pumps.

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General Office and Factory

Oklahoma City, Oklahoma

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Principles Applied for Marketing Gasoline in the United States

What are the specifications that now apply in the United States for the marketing of gasoline? What are the specifications used in the current market and for straightrun and cracked gasoline?—C. M.

The specification known as United States Government Motor Gasoline, frequently designated U. S. Motor Gasoline, is commonly followed by the marketing agencies in the different states as a foundation for quality requirements. The federal authorities stipulate certain requirements for only one grade of United States Motor Gasoline but the trade, including a few state inspection bureaus, have adopted certain modifications. The most important is an octane rating which ranges from 62-70 for the regular grades in most districts. The original does not include gravity but this is usually required in the trade the range being 54°-60° A.P.I. with an occasional requirement of 60° A.P.I. minimum. The trade practice is reflected in price quotations reported in The Oil and Gas Journal. The gasoline of U. S. Motor grade is sold as three grades in Oklahoma, North Texas, Arkansas, Louisiana, Mississippi and the Chicago territory. These are: Low grade, 62 octane number and lower; medium grade, showing 63 to 67 octane number; and the regular, or most common kind, 68 to 70 octane number. Another item added by the trade is color usually 25 Saybolt, but sometimes 21 (or water white) is the minimum permitted.

The specification limits for U. S. Government Motor Gasoline are: Distillation—evaporated 10, 50 and 90 per cent, minimum at 167° C., 284°, and 392° respectively and a residue not to exceed 2 per cent. Vapor pressure at 100° F. shall not exceed 2 pounds per square inch. Total sulfur, 0.10 per cent. Corrosion, none.

No distinction is made between straightrun and cracked gasolines. Most of the gasoline marketed is a blend of the two.

Other grades may include a minimum of 70 octane number; also 60-62° gravity and 400° F. endpoint or 64°-66° A.P.I. gravity and either 350 or 375 endpoint. These commonly include the U. S. Motor gasoline specifications for sulfur, corrosion, etc., with a minimum color requirement of 25 Saybolt. All grades are required to be sweet (negative) to the doctor test.

Specifications for gasoline were published under Questions on Technology in The Oil and Gas Journal during 1936 as follows: U. S. Motor, April 2; Navy Aviation, April 9; Trade Motor, April 16; Motor Fuel V, April 23; U. S. Army Aircraft, April 30 and May 7; Natural Gasoline, November 5, and Motor Fuel V (revised), November 12.

Utility of Natural Gasoline for Motor Fuel Purposes

How does natural gasoline compare with refinery gasoline of 68-70 octane number? Can natural gasoline be dispensed to the public through the same equipment, pumps, etc., as refinery gasoline? Is the loss in storage tanks excessive as compared with refinery gasoline?—T. A. W.

A good quality of stabilized natural gasoline will usually test around 65 octane number as compared with refinery gasolines ranging from about 40 to 100.

Natural gasoline may be handled through the standard dispensing equipment. The only objection to natural gasoline is that of volatility, when considered from the standpoint of storage and the tendency to cause vapor lock in the motor. This is usually controlled by the process of stabilization and keeping the percentage down to a reasonable quantity when blending with refinery gasoline. Satisfactory performance has been attained with 50 per cent blends and 25 per cent blends are extensively used. The quantity of stabilized gasoline that may be used in a motor fuel is largely a matter of climate or more accurately, local temperatures. When the temperatures are high there will be excessive evaporation, tendency to vapor lock and some difficulty in handling the product through pumps and lines. If the glass bowls are not adequately vented they may break due to the pressure.

Dr. G. G. Brown, speaking before the Natural Gasoline Association of America, May 13-15, 1936, Tulsa, reviewed the properties of natural gasoline and this discussion is partly from his paper, as reported in The Oil and Gas Journal. Table No. 2 is reproduced.

PROPERTIES OF FUELS

	Sample			
	No. 1	No. 2	No. 3	No. 4
Per cent evaporated, °F.:				
10	117	137	157	140
50	138	187	280	237
90	201	280	382	338
Gravity, A.P.I.	78.1	66.1	65.1	61
Volatility number	146	86	24	47
Octane number	65.9	65	65.6	69.4
Wt./gal., lbs.	5.619	5.961	5.991	6.119
Vapor pressure at 100° F., lbs.	10.5	7.15	7.05	8 (?)

Sample No. 1 was a natural gasoline stabilized to 10 pounds; sample No. 2 contained 50 per cent natural with refinery gasoline; sample No. 3 contained 25 per cent natural; No. 4 was a house brand gasoline.

Natural gasoline should be stored in containers that are especially designed and constructed for the purpose. Because of this fact natural gasoline storage is more expensive than that required for refinery gasoline. Large quantities of natural gasoline are stored in vapor-tight tanks and usually reduced to 18 pounds or lower vapor pressure.

References: George G. Brown, Ten Years of Research, The Oil and Gas Journal, May 21, 1936, page 108; C. C. Moore, Jr., and R. I. Stirton, Influence of Automobile Design on the Use of Natural Gasoline, The Oil and Gas Journal, November 19, 1936, page 49.

CHEMICALS FOR THE PETROLEUM INDUSTRY

Sulfur

Use: Sweetening light products, compounding oils and greases.

Forms: Brimstone, flowers of sulfur, roll sulfur.

Symbol S

Boiling point	832.3° F.
Specific gravity	*2.046 or †1.96
Atomic weight	32.065
Melting point	*235° or †246° F.

The material should comply with these limitations—

	Per cent
Sulfur, minimum	99
Inert material, maximum	1
Solubility in CS_2, minimum	99

Brimstone and roll sulfur are somewhat more soluble in petroleum liquids than flowers of sulfur.

*Rhombic. †Monoclinic.

Relation of Engine Operation to High-Compression Ratio

What is the main purpose of high-compression ratio in the automobile engine? Do the modern high-compression engines have a tendency to sweep out more carbon than those with a lower compression ratio?—A. W. T.

The compression ratio of an engine is really no index of its efficiency, it simply happens to be the ratio necessary to produce the desired compression in that particular engine. The compression is limited by the fuel used. Fuel of high octane rating allows much higher compression before the spark knock becomes objectionable.

As a rule, all valve-in-head engines require lower compression ratios for the same compression pressures. This is due to the greater breathing capacity of the valve-in-head engine; when the valve opens, a greater volume of combustion gas enters the cylinder. Therefore, when this is compressed, it is not necessary to squeeze it into such a small volume before the compression pressure, which is maximum for the fuel being used, is reached.

It is desirable to operate on as high compression pressure as is possible, as the usable power obtained from the explosion is greater if the compression is greater. Therefore, the real index of the engine's efficiency is the compression pressure under which it operates and not its compression ratio, as high-compression ratio does not necessarily mean high-compression pressures.

While high compression generally would tend to form less carbon than would be the case with low compression, at the same time, the spark knock from carbon would be more prevalent in the high-compression engine.

There are several factors that contribute to the formation, and possible deposition of carbon in the automobile engine, the most important being the quality of the fuel. If the gasoline is pure and of good quality, as determined by the now well known specifications, there is little chance for the formation of carbon deposits when it is consumed. There can be no difference in the removal or sweeping out of carbon in either the low- or high-compression engine.

Composition of Ethyl Fluid

Is the material used to give the antiknock quality to Ethyl gasoline composed of only tetraethyl lead?—E. C. N.

The liquid used as the knock suppressor in Ethyl gasoline is a mixture reported to be essentially—

ETHYL FLUID

	Per cent
Tetraethyl lead	54.5
Ethylene bromide	26.4
Monochloronaphthalene (Halowax oil)	9.0

This liquid is very heavy, having a specific gravity of 1.79.

The purpose of the ethylene bromide is to cause the lead products formed during the combustion of the fuel to be volatile enough to be carried away in the exhaust gases and to cause no damage by forming deposits on valve seats and stems or on the sparking poles. The monochloronaphthalene aids in keeping exposed parts lubricated and thus overcome any tendency to fuse and stick.

Questions on Petroleum Technology may be sent to Dr. Charles K. Francis, The Oil and Gas Journal, Tulsa, Okla. When a copy of the answer is desired postage should be enclosed.

OIL WELL SUPPLY COMPANY

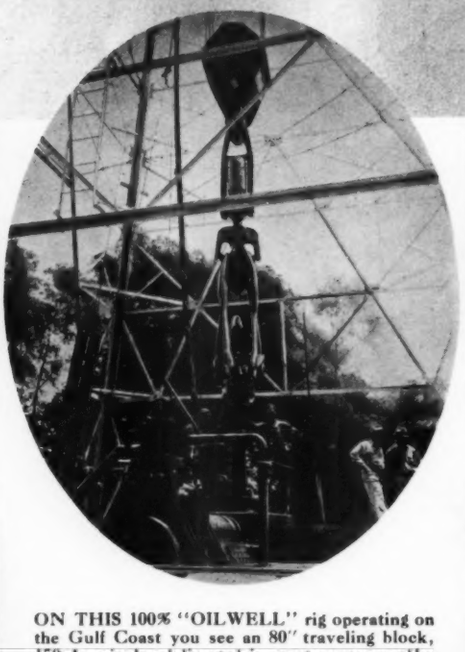
75 years of progress

DIAMOND
1862 OILWELL 1937
JUBILEE

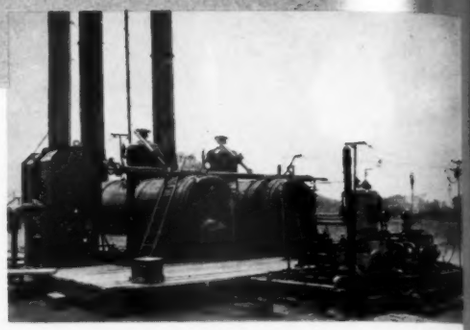
75 years experience

. . . . THE GREATEST IN THE INDUSTRY SHOWS ITS WORTH IN THIS MACHINERY

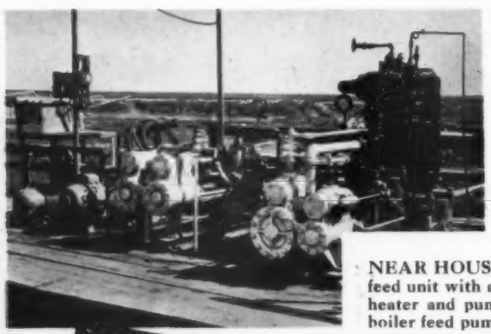
ON THIS RODESSA town site field is an "OILWELL" No. 12 Vertical Steam Engine and No. 7-P Hoist.



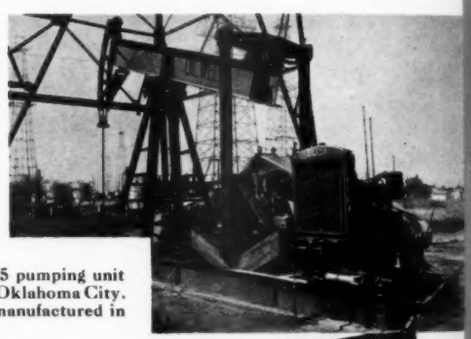
ON THIS 100% "OILWELL" rig operating on the Gulf Coast you see an 80" traveling block, 150-A swivel and direct-driven rotary powered by No. 7 vertical steam saving engine.



THIS "OILWELL" fuel saving boiler plant on the Gulf Coast has two "OILWELL" boilers, separately fired superheater and feedwater heater and pump.



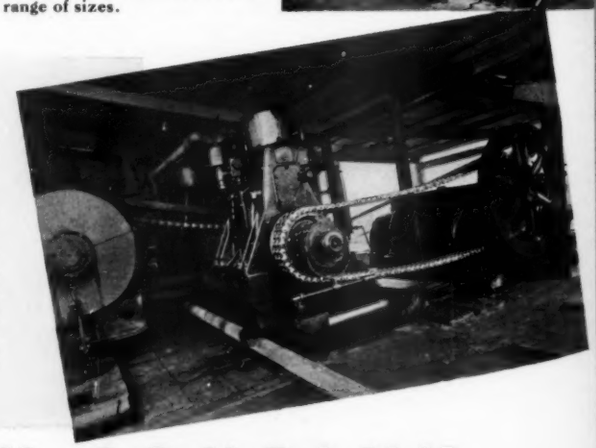
NEAR HOUSTON you'll find this boiler feed unit with an "OILWELL" feedwater heater and pump, standby Wilson-Snyder boiler feed pump and turbo generators.



THIS "OILWELL" TC-35 pumping unit is pumping a 6600 ft. well in Oklahoma City. These pumping units are manufactured in a complete range of sizes.

(LEFT)
THIS 150 H. P. single-crank type enclosed oilbath geared power is pumping 12 wells near Pampa, Texas.

(RIGHT)
NEW "OILWELL" double engine drive operates by remote control from the derrick floor. The two 7¾ x 7 "OILWELL" vertical engines driving the hoist and power pump save steam.



OIL WELL SUPPLY COMPANY

Subsidiary of United States Steel Corporation
Branch Stores in All Oil Fields

"OILWELL"

PROBLEMS FROM READERS

Edited by L. G. E. Bignell

First Proration Orders Covering Production

I recently heard the statement made that credit for the first field to go under proration in the broad sense of the term goes to Seminole pool, Oklahoma, where the first order was issued August 9, 1927. It is also stated the Yates field, Texas, went under a restriction order shortly after the Seminole field. Do you know anything about the facts concerning this statement?—E. D. Y.

It is true the first proration orders issued under the present proration scheme enforced by the Corporation Commission of Oklahoma, oil and gas conservation department, were made in Seminole during 1927. Some oil fields in Oklahoma have been under some form of proration since then.

The first proration order made by the Corporation Commission of Oklahoma, under the law, was June 30, 1914, Order No. 829, and covered the Cushing field. Another order was issued by the same body November 26, 1914, No. 878, covering production in Healdton field. There was no prorated fields after the Cushing and Healdton orders until the order made in Seminole field in July, 1927.

One record at our disposal indicated the first proration order covering Yates field, Texas, was effective October 1, 1927, when the allowable for 23 wells was set at 30,000 bbls. daily with the daily potential production established at 172,845 bbls. or an average per well of 7,515 bbls.

Relative Cost of Producing Oil From Lime and Sand Pools

I sometimes hear it said that the production of oil from lime formations is more expensive than from sand formations. Will you please advise whether this statement is correct and, if so, just why such is the case?—W. E. S.

Your question is not easily answered in a specific way for there are too many factors entering into the cost of production to set up exact standards of comparison between lime and sand fields. Some years ago the department of the interior did compile some costs of production for the three years prior to 1933 and below are quotations of net costs for the three-year average from some typical lime and sand areas. In the Butler and Harvey counties fields in Kansas which are combined in the report part of the production from pools in Harvey County is from the Hunton lime and chat formations. However, the figures are given as the only available data and seem to indicate higher costs of production from sand fields.

Net Cost of Production

Lime Fields

	3-year average
West Texas	$0.56
West Kansas	0.715
Hobbs pool, New Mexico	0.534

Sand Fields

North Texas	$1.027
Butler and Harvey counties, Kansas	1.012
Seminole area, Oklahoma	0.855

It is not believed that these figures prove much for as stated there are too many factors entering cost accounting and too little opportunity to make comparisons between wells of equal depth and rate of production, same proportion of water and oil and other details. We do not understand why such a statement should be made and if you can give us more details as to the purpose of your inquiry we will be glad to go into the matter further.

Literature of Paraffin Problems

Kindly send us at once any literature you may have on paraffin problems.—B. E. J.

We suggest you send 55 cents in coin to the Superintendent of Documents, Government Printing Office, Washington, D. C., for a copy of Bulletin No. 348 issued by the U. S. Bureau of Mines and entitled "Paraffin and Congealing Oil Problems," by C. E. Reistle, Jr. This is about the best work on this subject we know of and well worth a place in your library.

Compressor Plant For Gas-Lift In Oklahoma City Field

We have four wells in the Oklahoma City field and are planning to use gas-lift for handling the production. Would you kindly advise us of the kind of compressor plant to install and the estimated cost of building same?—R. E. K.

Conditions that should be known before your question can be intelligently answered are: Thickness of sand, flowing pressure, reservoir pressure, quantity to be produced per day, quantity of gas with oil from the formation, proximity to residential property, proximity of wells to each other, suitable site for plant.

Also, in order to answer your question as to type of compressor plant and cost, it would be necessary to know the status of your wells; whether they are in the Simpson or Wilcox zones, whether they are old wells nearly depleted, or in the newly-drilled area, whether they have small or large casing. In order to give any kind of an answer we shall have to make some assumptions.

If the wells are in the older portions of the field, whether in the Simpson or in the Wilcox zone, it is fair to assume that they have been fairly well depleted, in which case it is not likely a compressor plant installed at this time would ever pay out. Moreover, if the casing is of 6⅝ inch or 7-in O. D. it would probably be inadvisable to build such a plant. Probably it would be best to purchase compressed gas as long as profitable to produce in this manner, and then place the well on a sucker-rod pump if the well production is not too large to be handled by that method, otherwise the submerged electric-driven centrifugal pump might be employed if it then appears profitable for the centrifugal to be installed. The question of water content would affect the reasons that would apply to the installation of the centrifugal pump.

The following statements are supplied by S. F. Shaw, as affecting the installation of a gas-lift plant:

The wells in the newly-drilled sections of the Oklahoma City field north of Third Street, are nearly all completed with casing not less than 8⅝-inch O. D., and many strings of 9⅝-inch are employed. If wells are completed with these larger sizes of casing, and situated close together, it would be quite feasible to install a compressor plant for operating them on gas-lift. Practically all of these wells are being placed on gas-lift as soon as they fail to produce their allowables on natural flow.

The capacity required of the plant would depend on the allowable permitted to the wells, and the flowing pressure. In most cases, a plant of sufficient capacity for a given flowing pressure on any individual well, would not require increased capacity during the remaining life of that well. The size of the plant will depend on the size of the casing, since the casing size will determine the production that can be lifted.

Assuming wells have a casing of 9-inch O. D., are situated close together, and have a bottom-hole flowing pressure of 300 pounds, and a site is available for a plant which will not interfere with living conditions in nearby residences, the maximum production at this time would be in the neighborhood of 4,500 bbls., per day. The quantity of gas required to lift a barrel of oil under these conditions would be approximately 1,500 cubic feet. Possibly 500 cubic feet of gas per barrel would accompany the oil from the formation, leaving gas requirements at about 1,000 cubic feet per barrel. The required capacity of the plant to handle the maximum production of 4,500 bbls. per day would then be about 4,500,000 cubic feet per day. The well could be produced with less input gas, but satisfactory potentials could not be obtained with a smaller quantity of input gas.

The present allowable is 5¼ per cent of the potential, therefore, the daily allowable would be about 235 bbls. per day, and to produce the monthly allowable of 7,000 bbls. would require operating the well for about 37 hours of actual running time. This could be handled in 1½ days on a 24-hour basis, or 4½ days on an 8-hour basis per day. In the course of time the flowing pressure will decline, and this will make for a greater input gas requirement per barrel. Also, the allowable percentage will probably be gradually increased which will in itself require a greater number of hours of running time. It is quite possible that the allowable will be gradually increased until it is 100 per cent of the potential, in which case the well will need to produce as near 100 per cent of the time as possible. However, this is not likely to take place for some time. Also, as the production declines, the total quantity of gas required from the plant will gradually decrease although the quantity of gas per barrel will gradually increase.

For the time being, this plant which is capable of producing one well at maximum capacity will be required only about 37 hours out of a total of 720 hours per month, and, therefore, could be employed to produce the other three wells. If the allowable production in all the wells is the same quantity, the total number of hours of operating time would be four times 37, or about 148 hours out of a total possible of 720 hours per month. This requirement of 148 hours is the minimum required as of the time when the potential is 4,500 bbls. per day, and when the allowable percentage is 5¼ per cent. The required operating time of the plant will gradually increase until it will be operating at full capacity, and if the allowable be sufficiently increased, additional plant capacity would be required.

Such a plant provided with equipment as that outlined above, would cost in the neighborhood of $75,000 to $80,000, if the latest type of new machinery is employed. A plant of used equipment could be employed that would cost about $40,000 to $50,000, but would hardly be suitable for use in the vicinity of residential property.

OIL-COUNTRY BOILERS

NEED *GOOD* TUBES

Oil-country boilers need the best tubes it is possible to get, because of the extremely rigorous conditions under which such boilers are used. That is why it pays to buy boilers of this type that are equipped with B&W Seamless Tubes—and to specify B&W Seamless for retubing jobs.

B&W Seamless Boiler Tubes are made by a process that demands the use of steel of guaranteed quality, that automatically tests every tube, and that improves the steel just as forging does. In addition, B&W Seamless Boiler Tubes are made with the experience gained through the production of over 300,000,000 linear feet of boiler tubes for the leading stationary, marine, and locomotive boiler users—and for pressures up to 1450 pounds.

Further facts on these tubes will be gladly sent upon request.
Simply ask for Bulletin T 14-A

THE BABCOCK & WILCOX TUBE COMPANY
BEAVER FALLS, PA.

• Portable oil-country boiler, manufactured by Lucey Boiler & Manufacturing Corp., Chatanooga, Tenn. A. P. I. rating 104 Hp. Manufacturers rating 132 Hp.

BABCOCK & WILCOX TUBES

The Babcock & Wilcox Tube Company, Beaver Falls, Pa.

FIELD OPERATIONS

Summarizing the Week's Developments

Twelve wells were completed in Winkler County, West Texas, last week, that averaged over 1,000 bbls. to the well, and one gusher was completed in the Yates pool. A prospective pool opener close to the New Mexico-Texas line enhances lease values in Gaines and Andrews counties. The old McCamey field in Upton County was extended. A sudden, but it is believed short-lived, spurt in field operations in East Texas is caused by lease obligations. Initial production of Sulphur Bluff wells is larger than in Talco, although both fields produce from the Paluxy sand. In Southwest Texas a new deep oil sand appears to have been uncovered in Saxet, and oil was showing in a test in the White Point gas field. The London and Charamousca pools were extended.

LOUISIANA-TEXAS

Two new pools in Terrebonne Parish, Coastal Louisiana, are in prospect, preliminary tests having resulted in favorable showings. The Charenton pool in St. Mary Parish was extended 1,000 feet.

Interest in the Shreveport area continues to center in Marion County, Texas. The Jefferson discovery well was not yet a completion. Precautions for mechanical work on the well to put it in shape to produce at its maximum were being made. A test between the Jefferson pool and the Rodessa field is now the outstanding drilling well in the district. It is on the Lodi structure. Two wells are about to be started in the new Lisbon pool in Claiborne Parish, Louisiana. In Miller County, Arkansas, an offset to a discovery oil well, Texarkana area, found salt water.

OKLAHOMA

An abandoned well in the Wildhorse area, Osage County, Oklahoma, was deepened and found rich production in the second break in the Mississippi lime. The North Bethel pool, Seminole County, was extended two locations south by a 1,370-bbl. well. Largest Oklahoma producer of the year was completed as a 36,166-bbl. well in the Moore pool, Cleveland County.

KANSAS

The Bloomer pool, Barton County, was extended one-half mile south. A second producing horizon was uncovered in the Walters pool, Ellis County. The second well in the Faubin pool, Rooks County, and the farthest north producer in the state pumped 492 bbls. of oil in 24 hours. A Bartlesville sand pool opener in Cowley County was completed.

MICHIGAN

The Buckeye pool in Gladwin County, Michigan, is showing up as the best of the recent pool discoveries in that state.

ROCKY MOUNTAIN FIELDS

Lea County, New Mexico, has a prospective pool 6 miles southeast of Hardy and close to the Gaines and Andrews, Texas, lines. The hole filled with oil and made a flow. The pay looks like that in the Hobbs pool. In Colorado a 1,000-bbl. well extending the new pool on the Powder Wash structure in Moffat County. A 2,769-bbl. well was completed in the Lance Creek field in Wyoming.

CALIFORNIA

Ten wells will soon be drilling in the New Wellington pool in Los Angeles Basin, California. A 2,000-bbl. well has been added to the pool. A new deep producing zone was opened in the Rosecrans field, also in Los Angeles Basin.

Completions in All Fields

(Week Ending February 13, 1937)

	Oil	Gas	Dry	Total	1937 total comp. to date	1936 total comp. to date
Penna. Grade Fields	54	18	6	78	390	311
Lima Field	0	0	0	0	9	10
Central Ohio	1	12	5	18	106	30
Indiana	1	2	1	4	24	25
Kentucky	0	0	0	0	17	25
Illinois	1	0	0	1	1	23
Michigan	4	1	5	10	95	92
Kansas	34	1	10	45	243	160
Oklahoma	18	3	9	30	292	294
Texas:						
North Central Texas	21	1	35	57	314	279
West Texas	42	0	5	47	277	146
Texas Panhandle	9	1	0	10	71	85
East Central Texas	15	0	3	18	80	34
East Texas	16	0	0	16	248	311
East Texas border	10	2	0	12	62	0
Gulf Coast Texas	6	0	5	11	144	114
Southwest Texas	41	0	14	55	403	246
Total Texas	160	4	62	226	1,599	1,215
North Louisiana	3	3	1	7	52	69
Gulf Coast Louisiana	3	1	1	5	47	39
Total Louisiana	6	4	2	12	99	108
Arkansas	1	0	2	3	9	16
Montana	0	0	0	0	12	14
Wyoming	1	0	0	1	11	10
Colorado	1	0	0	1	3	5
New Mexico	7	0	0	7	84	59
Utah	0	0	0	0	0	1
California	22	0	11	33	164	137
Total United States	311	45	113	469	3,158	2,535
Total previous week	296	41	111	448		
Difference	15	4	2	21		

Outstanding Fields—Highlights

(Week Ending February 13, 1937)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod
TEXAS						
Anahuac	5	4	2	1,345	149	9,799
Hastings	4	10	0	0	138	8,983
Loma Novia	2	5	3	425	654	15,685
Seven Sisters	3	4	4	1,400	373	8,720
Saxet	2	42	8	1,420	348	24,980
Lopez	1	5	2	600	283	6,890
East Texas	67	91	16	563	22,102	452,494
Talco	12	24	12	1,237	203	16,975
OKLAHOMA						
Oklahoma City	3	24	2	3,359	1,093	159,200
Fitts	7	57	4	1,445	615	80,975
Burbank-So. Burbank	1	2	0	0	2,164	23,550
KANSAS						
Ellis County	6	10	3	4,667	79	5,135
Reno County	7	26	3	1,310	366	20,625
Russell County	12	53	7	9,840	580	21,400
Rice County	15	45	9	7,151	696	42,965
NEW MEXICO						
Lea County	14	97	6	500	2,014	81,570
LOUISIANA-TEXAS						
Rodessa, La.	1	14	1	210	347	48,870
Rodessa, Tex.	10	36	10	4,117	198	38,980
Gillis, La.	2	3	0	0	58	16,378
Tepetate, La.	4	4	1	254	42	5,625
MICHIGAN						
Porter-Yost	6	6	1	270	428	13,197
Crystal-Montcalm	4	7	0	0	149	3,029

Eastern Field Report

By STAFF CORRESPONDENT

GAS WELLS PREDOMINATE IN WEEK'S COMPLETION REPORT

PITTSBURGH, Pa., Feb. 15.—Twenty-eight operations were completed in the lower eastern fields during the past week and they resulted in six dry holes, 17 gas wells and five producers with an initial production of 53 bbls. a day. Deep tests in all of the districts are nearing their horizons.

SOUTHEAST OHIO

The deep test of Harold C. Phillips and others on the Richard and Bell Fenton farm 1 mile north of Lowellsville in Poland Township, Mahoning County, Ohio, reached the Corniferous lime at 3,785 feet and is now 30 feet in that formation, which is very hard.

In Columbiana County, the Natural Gas Co. of West Virginia is drilling 171 feet in Corniferous lime on the Albert Ketchum farm 9 miles north of the Margaret Jenkins Oriskany gas well in Madison Township, section 28.

Completions were few in this district. In Knox County, Settles & Lightner completed a test on the C. H. Davidson farm, section 21, Jackson Township, in the Clinton sand at a depth of 2,935 feet. It will probably make a 10 or 15-bbl. pumper.

In Monroe County, A. E. Robinson and others completed a test on the Warren Miracle farm, section 9, Franklin Township, in the lime at 1,190 feet. It produced 6 bbls. the first day without being shot. In Washington Township, on Whitten Creek in section 24, W. T. and others completed a second test on the R. Escott farm in the Squaw sand at 1,691 feet. It is a gas well gauging 75,000 feet a day.

In Perry County, the Preston Oil Co. drilled a test on the Thomas Marshall farm in the NW quarter of section 31, Monroe Township, through the Clinton sand to 3,700 feet. It was a dry hole.

SOUTHWEST PENNSYLVANIA

The deep tests in Southwest Pennsylvania still occupy the center of interest. In South Beaver Township, Beaver County, A. J. Wise, Jr., is drilling on the Beaver Falls Airport Corp. lease for Oriskany sand. There will possibly be another deep test started in this county as soon as the ground permits hauling in the rig.

In South Union Township, Fayette County, the test of William Snee and others on the Summit Hotel property on Chestnut Ridge is down 6,100 feet. The Tully lime was reached at 6,018 feet.

In Independence Township, Beaver County, the test of the Laughner Oil & Gas Co. and the American Natural Gas Co. on the William Wilsman farm is again active. A whipstock was set and it is drilling 30 feet deeper than the lost tools. In Franklin Township, Butler County, the test of Phillips-Wittmer on the Perry S. Davis farm is drilling past 4,000 feet.

In Mount Pleasant Township, Washington County, the test of Norwood Johnston and others on the James McBurney farm is ready to start again. A new line has been put on and the hole is clear.

Routine Work

Two wells were completed in Southwest Pennsylvania during the week. In Wayne Township, Greene County, Myers, Hoskinson and Milliken completed a test on the D. L. Headley farm at a total depth of 3,248 feet. The Pittsburgh Coal was at 773 feet; the Bayard sand at 3,167 feet, with 775,000 feet of gas showing at 3,168 feet.

In Allegheny County, Morrow & Co. is drilling at 1,800 feet in a test on the Paul Croskey farm in Richland Township. In Greene Township, Beaver County, George Freshwater and I. C. Reed are down 400 feet in No. 3 on the Walter S. Laughlin farm.

In Morris Township, Washington County, the Carnegie Natural Gas Co. drilled the test on the J. Q. Stockdale farm through the Fifth sand to a depth of 3,335 feet and it was a dry hole. There was a small showing of gas in the Fourth sand.

In South Franklin Township, Washington County, the Dunn Mar Oil & Gas Co. is building a rig on the J. T. Baldwin farm. I. C. Bloom and others are drilling at 2,495 feet on the Clyde Hinerman farm. The Carnegie Natural Gas Co. is down 2,805 feet on the Dickerson farm.

In Amwell Township, Washington County, the Union Gasoline & Oil Corp. is building a rig on the C. H. Miles farm. The Carnegie Natural Gas Co. started drilling No. 2 Redd and is cementing the hole at 158 feet to shut off water. This company is hauling in a rig to deepen No. 1 on the Menzer farm from the Fifty-foot down to the Fifth sand. A. V. Lewis and others are drilling at 2,825 feet on the Ivan Mankey farm. The Penn Ohio Oil & Gas Co. has reached 1,730 feet in the test on the J. A. Russell lease.

In Nottingham Township, H. B. and Beulah Scott have reached 1,750 feet in No. 5 on the Harry Myers farm. In Carroll Township, Victor Behm is down 1,625 feet on the Hosack farm. In South Strabane Township, Manufacturers Light & Heat Co. is drilling at 2,400 feet on the George Burig farm.

In Greene County, Manufacturers Light & Heat Co. is down 1,375 feet on the J. S. and O. R. Kiger farm in Wayne Township. In Gilmore Township, this company is drilling at 2,500 feet on the T. and J. Hoy farm.

In Center Township, the Carnegie Natural Gas Co. has reached 2,345 feet in No. 2 J. W. Milliken. The top of the Injun sand was at 2,315 feet. In Dunkard Township, this company is drilling at 1,570 feet on the Ella B. Parker farm and reaming at 552 feet on the Dale Brand farm.

In Springhill Township, the Dunn Mar Oil & Gas Co. is drilling at 1,600 feet on the Kuhn heirs farm and Null & Moorhead have reached 1,500 feet on the John Barger farm.

WEST VIRGINIA

The deep test of Godfrey L. Cabot, Inc., on the T. F. Smith farm in Geary district, Roane County, on the west flank of Chestnut Ridge near Uler postoffice, has resumed drilling after cementing pipe in the Corniferous lime at 5,820 feet. The depth is now 108 feet in that formation or 5,902 feet. Less than 100 feet more of lime is expected and drilling is progressing fairly rapidly. It is the most important outside test in the state.

The deep test of Glenn Roberts and others on the Roberts Oil Co. lease on the Burning Springs anticline in Burning Springs district, Wirt County, is still unproductive. The tools are at 5,031 feet in a brown sand containing considerable chert and very probably passing into the Helderberg.

In Hancock County, John T. Galey has spudded in a test on the Rachael Talbot farm in Grant district. This is scheduled for the Oriskany sand. It is located exactly 1.7 miles south 55 degrees west of bench mark 1,337, 1½ miles south of Chester. The elevation is 1,270 feet.

In Calhoun County, Godfrey L. Cabot, Inc., is drilling at 4,830 feet in a deep test on the Allen Hardman farm in Center district. This will also prove an important test.

The test of the Columbian Carbon Co. on the C. W. Vickers farm was completed at a total depth of 5,262 feet with the top of the Oriskany sand at 5,202 feet. The gauge is 3,686,904 feet a day with a rock pressure of 1,700 pounds. This is in Elk district.

In Poca district, the United Carbon Co. is completing No. 2 Ahaz Spencer as a gas well, with the top of the sand at 5,028 feet, the tools now at 5,055 feet and gas estimated at 750,000 feet a day. This company has also reached the Oriskany sand in the test on the L. E. Campbell farm, same district, with the top of the sand at 4,837 feet and shut down at 4,839 feet.

Several more wells have reached the Corniferous lime in this field. In Malden district (Campbells Creek field) the United Fuel Gas Co. has reached the top of the lime at 5,014 feet in No. 4,658 on the George Creek Land & Mining Co. lease. Godfrey L. Cabot, Inc., has topped the lime at 4,891 feet in No. 11 on the Campbells Creek Coal Co. lease. In this district, the Columbian Carbon Co. is down 4,780 feet in a second test on the W. D. Lewis farm.

In Elk district, the United Carbon reached the top of the Corniferous at 4,898 feet in the test on the Forest Copenhaver farm. The United Fuel Gas Co. is down 5,104 feet in No. 4,656 on the A. J. Bruen and others lease and 4,814 feet in No. 4,689 on the W. C. McKee, guardian, lease. The Columbian Carbon Co. has five wells drilling in this district. Benedum & Trees are drilling at 3,340 feet on the Slack heirs farm and 1,280 feet on the T. W. Walls and others lease. The Glenn Oil & Gas Co. is drilling at 1,450 feet on the Virginia Joint Stock Land Bank (Morse) farm.

Another location has been made in Elk district. The United Carbon Co. has made a location on the H. C. Smith farm for a second test, 840 feet east of Aarons Fork, with an elevation of 881.2 feet.

Completions

Three producers were completed in West Virginia during the week. In Ritchie County, the Tri-County Producing Co. completed No. 3 E. W. Bell in Union district, at a depth of 1,924 feet, the Blue Monday sand. It is good for 25 bbls. a day.

In Wirt County, the Oil City Trust Co. completed No. 8 P. G. Marks in Spring Creek district in the Cow Run sand at 962 feet. It will make a half barrel pumper.

In Wood County, Albert Congdon completed No. 6 Charles Grant, on Stillwell Creek in Walker district, in the Berea sand at 2,162 feet. It is showing for 6 bbls. a day.

Gas Wells

In Boone County, the Cambridge Gas Co. completed No. 10 Garnet Wiseman, in Scott district, total depth 3,624 feet; Brown shale 2,550-3,615 feet, with 460,000 feet of gas at 2,600-3,587 feet. In this district, Ira G. Sayres completed deepening No. 6 Roman Pickens at 4,143 feet; Brown shale at 2,497-4,143 feet, with 800,000 feet of gas at 2,857-3,505 feet.

In Washington district, Boone County, Owens Illinois Glass Co. completed No. 2 C. L. Vickers, in the Berea sand; Berea 2,239-70 feet, with 105,000 feet of gas at 2,250-53 feet. In Scott district, this company completed No. 24 Cassingham Coal Land Co.; Berea 2,389-2,413 feet, with 166,000 feet of gas at 2,393-99 feet.

In Scott district, Boone County, United Fuel Gas Co. completed No. 4,618 Mohler Lumber Co.

(Continued on Page 80)

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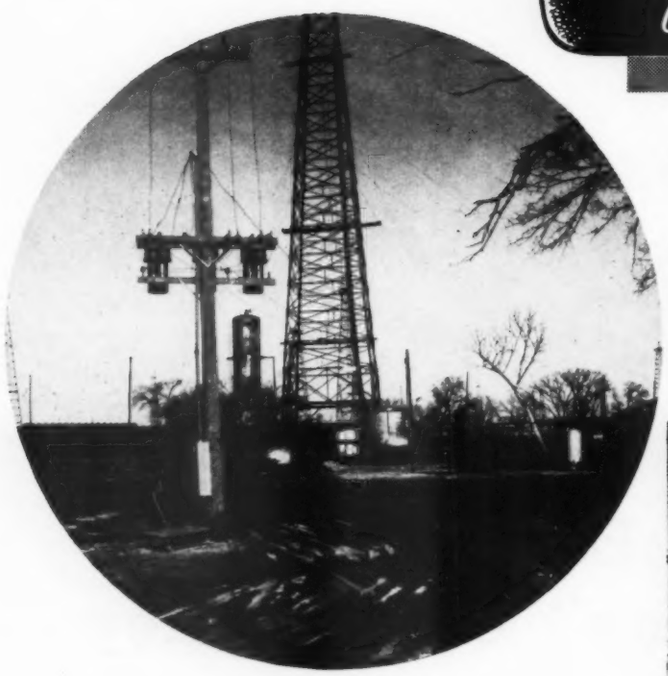

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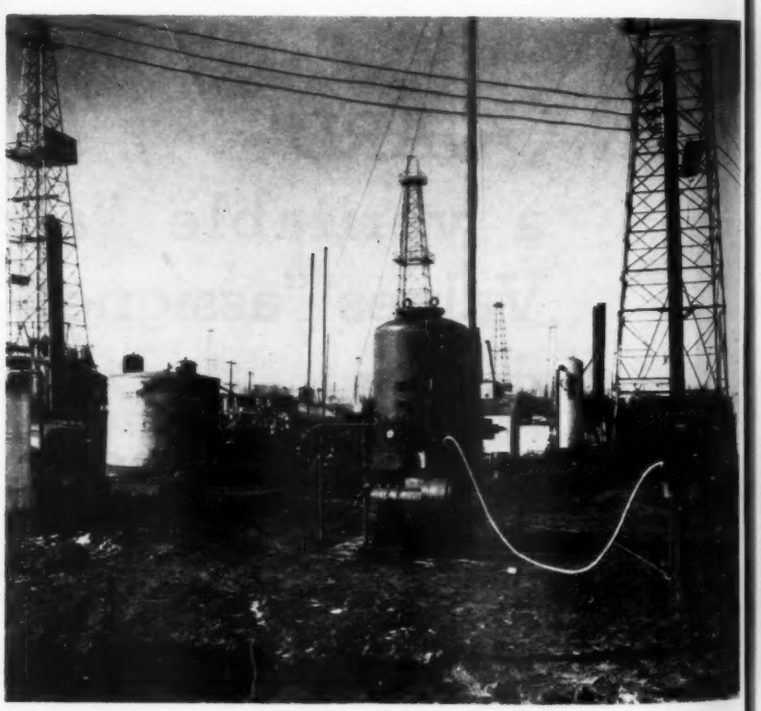

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Oklahoma Operations

By
DAL DALRYMPLE

OSAGE STRIKE MAY LEAD TO DEEPENING OF MANY WELLS

An old abandoned well in the Wildhorse area of Osage County was cleaned out and deepened to the Mississippi lime, where it found big production and provided the major interest of the week in Oklaboma oil fields. It was the Gulf Oil Corp. and others No. 1 Bearcat, NW cor. section 20-22-10. It had initial flow of 1,785 bbls. of 39-gravity oil in the first 9½ hours after drilling to 1,947 feet, total depth, about 30 feet in the lime.

Originally, the well was completed as a Bartlesville sand producer in 1920, with an initial production of 7,000 bbls. daily from sand at 1,760-1,854 feet. It produced about 250,000 bbls. of oil before water intruded to such an extent that it was abandoned in September, 1935.

Late in 1936, Pure Oil Co. deepened its No. 1-A Osage, NE cor. section 19-22-10, in an effort to shut off water and found Mississippi lime at 1,908-2,018 feet. It flowed at the rate of 100 to 150 bbls. an hour for several hours, was pinched in and completed for 711 bbls. daily.

The deepening of No. 1 Bearcat to the lime was a result of that strike. After its initial flow of 1,785 bbls., No. 1 Bearcat was pinched in because of inadequate tankage. The next day it flowed at the rate of 170 bbls. an hour, and later flowed 582 bbls. of oil in 24 hours through one-half inch choke, with about 2,500,000 feet of gas. Expectation was that it should be shut in to 50 bbls. daily. Skelly Oil Co. and Phillips Petroleum Co. are interested in the new well with the Gulf company. Deepening of many other old Osage wells probably will follow completion of the two lime wells.

Four tracts in the vicinity of the two Mississippi lime wells are to be offered for leasing at the Osage sale in Pawhuska, March 10. The unleased tracts are No. 74, in NE section 18-22-10 and No. 75 in NW section 18-22-10, northwest of the new strikes; and No. 76 in NE section 20-22-10, and No. 77 in SE section 20-22-10, east and southeast of the new producers.

Pontotoc County

Three large Hunton lime producers and one Cromwell sand well were completed in the Fitts field, Pontotoc County. Heenan & Coe No. 1-A Woolley, SW NW SW section 22-2-7, topped Hunton lime at 3,560 feet and was bottomed at 3,942 feet. It flowed 430 bbls. of oil in three hours through casing. After acidizing with 18,000 gallons, it flowed 433 bbls. in three hours through tubing and made potential of 4,465 bbls.

Sinclair Prairie Oil Co. No. 12 Woolley A, NE SW SW section 22-2-7, flowed 754 bbls. of oil through casing and tubing in two hours after treating with 15,000 gallons of acid and made potential of 3,995 bbls. of oil. Top of Hunton lime was 3,504 feet; Sylvan shale, 3,882 feet; total depth, 3,888 feet.

H. L. Blackstock No. 2 Kirby, NW NE SE section 22-2-7, topped Hunton lime at 3,610 feet; Sylvan shale, 4,130 feet; total depth, 4,170 feet, perforated casing, acidized with 10,000 gallons and flowed 80 bbls. of oil gross through casing the first hour, was dead the second hour and flowed 75 bbls. of oil gross through tubing the third hour. It was acidized again with 2,000 gallons, a third time with 3,000 gallons and a fourth time with 10,000 gallons, finally making potential of 3,647 bbls. of oil.

E. H. Moore and others No. 5-A Woodruff, NE NE SE section 29-2-7, had Cromwell sand at 2,344 feet and was bottomed at 2,510 feet. It flowed 96 bbls. of oil the first 24 hours, and later flowed 80 bbls. of oil through tubing in 24 hours, with 3,100,000 feet of gas.

W. A. Delaney and others No. 1 Carroll, SE cor. section 14-2-7, was an abandoned location, temporarily.

Seminole County

Another good producer that extended production in the North Bethel pool, Seminole County, two locations south, was completed at J. E. Hall, Fleet & Osborne and R. C. Quiett No. 1 Harjo, NW SE NW section 36-10-7. It topped Cromwell sand at 3,620 feet; total depth, 3,629 feet, and made potential of 1,370 bbls. of oil. Gas gauged 2,600,000 feet. Top of Senora sand was 2,425 feet; Gilcrease, 3,518 feet; sandy Wapanucka, 3,618 feet.

C. J. Wrightsman completed No. 2 May, SW cor. section 25-10-7, after topping Cromwell sand at 3,595 feet and stopping at 3,607 feet, total depth. It made potential of 284 bbls. of oil in 24 hours, with 2,600,000 feet of gas.

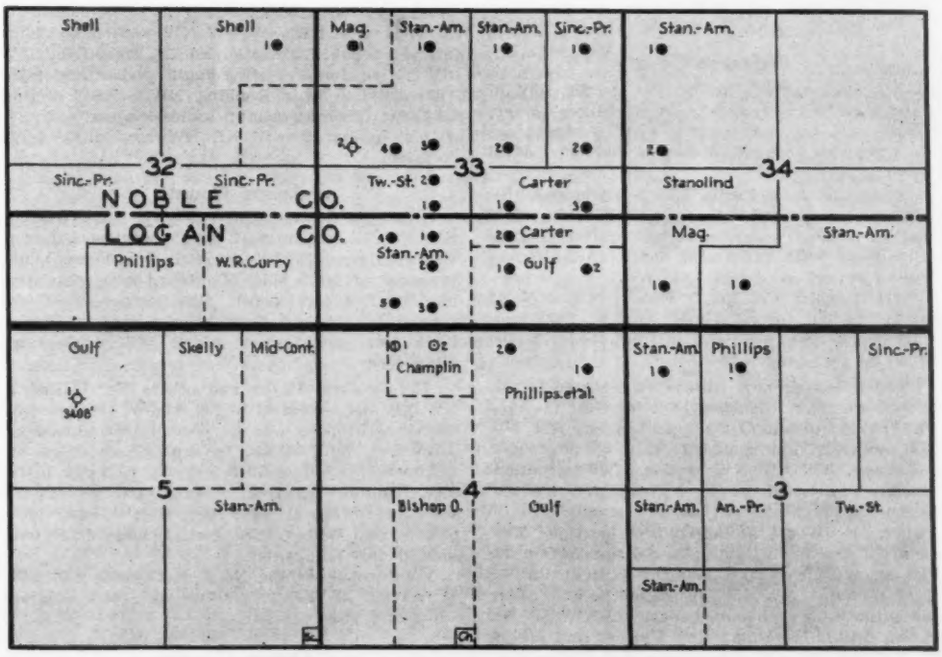
Crosbie & Gentner No. 1 Brown, SW NE SW section 25-10-7, on northeast edge of the North Bethel area, was dry and abandoned at 3,631 feet, total depth. Packer was set at 3,614 feet and when opened 30 minutes 400 feet of water and 130 feet of mud and oil was registered. It topped Big lime at 3,257 feet; Booch, 3,380 feet; Gilcrease, 3,465 feet; Wapanucka, 3,614 feet; Cromwell sand, 3,618 feet. Completion of this dry hole on the north and a good producer on the south indicates the trend of best pay may be to the southeast.

Three new tests for the North Bethel pool were reported. J. E. Hall and associates were digging cellar at No. 2 Harjo, NE SE NW section 36-10-7, offsetting their new producer on the east. J. E. Crosbie and others No. 1 Miller, SW SE SE section 25-10-7, four locations east of production, was a location. Amerada Petroleum Corp. and others No. 3 Yahola, SE NW NW section 36-10-7, was rigging up rotary. It is a south offset to the No. 1 producer completed by these operators on the Yahola lease and is a diagonal northwest offset to J. E. Hall and associates' new producer.

Other new work in Seminole County: Papoose Oil Co. and others No. 1 Yarber, SW SW NW section 15-11-8, wildcat, 1¼ miles southwest of the Dill pool of Okfuskee County, building rig; Rogers Oil & Gas Co. No. 1 Pilot, SW NE NW section 16-9-7, an old well, cleaning out; M. Vandeventer and others No. 1 Herrod, SW SW NE section 3-8-8, set 10-inch casing at 65 feet; this test is in a gas area and will be classed as a wildcat if it is an oil producer; N. Bert Smith and others No. 1 Walker, NE NW NW section 27-8-7, digging cellar; Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 1 Cully B, SE NW SW section 12-5-7, location; Francis Oil Co. No. 3 Ragland, SW NW NW section 19-5-6, rig.

Wildcat Opens Area

Ramsey Petroleum Co. No. 1 Johnson, NW SW SE section 9-3-7, wildcat southeast of Ada and north of the Fitts field, opened a new gas area. Atoka sand, the producing horizon, was topped at 1,058 feet. The hole was bottomed at 2,845 feet; plugged back to 2,390 feet, acidized two times but recovery consisted of 98 per cent water, so it was plugged back again to 1,200 feet. It then was shot and produced 1,000,000 feet of gas, with 430 pounds rock pressure. It topped Wapanucka lime at 1,120 feet; faulted into Mississipupi Caney at 1,175 feet; topped Mayes at 1,300 feet; Woodford, 1,405 feet; Hunton, 1,519 feet, with a showing of oil; Sylvan, 1,919 feet; Viola, 2,050 feet, and had showings of oil and gas with a sulfur odor in



South end of the Lucien field. Champlin Refining Co. No. 1 Pfeiffer, NW section 4-19-2w, found Wilcox sand at 4,849 feet, higher than normal for the field, and was near completion. Sinclair Prairie Oil Co. No. 1 Glocker, NE NE NW section 32-20-2w, is a new location, not on map. (Mid-Continent Map Co., Tulsa)

cores; topped Bromide at 2,300 feet; first sand, 2,365 feet; second sand, 2,403 feet; water sand, 2,422 feet; McLish, 2,475 feet; Dense, 2,765 feet; Wilcox, 2,835 feet.

New work in Pontotoc County: Burke-Greis Oil Co. No. 2 Chambers, NW NE NW section 36-2n-6, an old well, plugged back from 4,419 feet to 3,825 feet; shot, acidized and flowed 769 bbls. of oil gross in six hours; ran tubing and was to reacidize. Sinclair Prairie Oil Co. No. 21 Woolley B, NW SE SW section 22-2-7, was digging cellar; Amerada Petroleum Corp. No. 6 Smith, SW SE NW section 28-2-7, building rig; E. H. Moore and others No. 2 Schauers, SW SW NW section 29-2-7, an old well, plugged back and cleaning out; W. A. Delaney and others No. 2 Russell, SW NE SW section 7-4-8, moving in tools.

Estimated Daily Production

Estimated daily average production of Oklahoma for the week ending February 13, and for the preceding week, was as follows:

	Barrels	
	Feb. 13	Feb. 6
Allen	6,875	6,975
Burbank	7,800	7,750
South Burbank	15,750	15,350
Balance Osage	22,100	22,000
Blackwell district	4,950	4,925
Bristow-Slick	7,925	7,850
Chandler	3,725	3,625
Crescent	11,325	12,200
Cromwell	3,300	3,325
Cushing-Shamrock	10,700	10,500
Duncan district	3,975	3,825
Edmond	19,975	20,175
Fish	6,975	7,525
Fitts	80,976	78,675
Graham	4,800	4,775
Gray	1,250	1,250
Healdton	9,775	9,725
Hewitt	4,425	4,400
Holdenville	925	900
Keokuk	8,150	7,525
Konawa	1,625	1,650
Lucien	13,000	12,750
Marshall-Lovell	875	850
Oklahoma City	159,200	143,300
Olympic	13,725	13,850
Papoose	950	900
Polo	1,725	1,700
Sasakwa and townsite	2,950	2,850
Sholem-Alechem	3,375	3,350
Seminole:		
Bowlegs	11,400	11,100
Carr City	6,275	6,350
Earlsboro	6,375	6,600
South Earlsboro	750	750
East Earlsboro	7,650	7,850
Little River	11,425	10,875
East Little River	1,250	1,175
Maud	775	775
Mission	2,275	2,250
Seminole	10,400	9,650
East Seminole	3,675	3,425
Searight	4,350	4,700
Total Seminole	66,600	65,500
St. Louis-Pearson	22,325	22,425
Tatums	4,425	4,350
Tonkawa-Garber-Thomas	5,775	5,775
Wewoka	3,650	3,625
Yale-Jennings	4,250	4,025
Other pools	74,499	71,575
Total Oklahoma	614,625	591,750

Okfuskee County

Manahan Oil Co. No. 15 Dalton, NE NW SE section 36-10-8, Olympic area, Okfuskee County, topped Senora sand at 1,730 feet; was bottomed at 1,733 feet; shot and flowed 366 bbls. of oil in 24 hours.

Chapman & McFarlin No. 5 Yarbrough, SW NW NE section 18-10-9, pumped 35 bbls. of oil and 66 bbls. of water in 12 hours after plugging back from 1,881 feet, total depth, to 1,879 feet. Top of Senora sand was 1,843 feet.

Ark Royalty Co. No. 5 Fisher, NW NW SE section 18-10-9, topped Senora sand at 1,858 feet; total depth, 1,900 feet; shot and swabbed 271 bbls. of oil in 24 hours.

The following new work was reported in Okfuskee County: Blackwell Oil & Gas Co. and Phillips Petroleum Co. No. 2 Lehmer, SW NW NW section 17-10-9, spudded; same operators' No. 3 Lehmer, NW SW NW section 17-10-9 location; Sinclair Prairie Oil Co. No. 4 Fisher, NW SW SW section 19-10-9, location; same company's No. 5 Fisher, SE SW SW section 19-10-9, location; Manahan Oil Co. No. 1 Bunner A, SE cor. section 24-10-8, rigging up rotary; Chapman & McFarlin No. 10 F. Williams, NW SE NW section 30-10-9, cellar and pits; L. Stekoll No. 4 Barnett, NW SE NE section 2-10-11, location; Ray Vincent and others No. 1 Fields, SE SW NW section 2-11-11, location.

Stanolind Oil & Gas Co. No. 4 Bunner, SE NE NE section 25-10-8, topped Senora sand at 1,817 feet, was bottomed at 1,841 feet and was rigging up standard tools. Blackwell Oil & Gas Co. No. 15 Dalton, SE SW NE section 36-10-8, topped sand at 1,714 feet; total depth, 1,733 feet, and was installing pump. Earl Evans No. 3 Smith, NW NE NW section 36-10-8, topped Senora sand at 1,721 feet; was bottomed at 1,741 feet; shot, swabbed 523 bbls. of oil in 24 hours and flowed 115 bbls. in 22 hours, but was not completed. J. F. Hinckel and W. A. Delaney No. 1 Lewis, SE cor. section 7-10-9, found Senora sand at 1,875 feet; total depth, 1,914 feet; plugged back to 1,911 feet; shot, swabbed 101 bbls. of oil and 25 bbls. of water in 18 hours and was putting on pump. Howard-Sherman and others were rigging up standard tools at No. 1 Bridges, NW SW SW section 8-10-9, after topping Senora sand at 1,846 feet and drilling to 1,848 feet, total depth. Blackwell Oil & Gas Co. and Phillips Petroleum Co. No. 1 Lehmer, NW cor. section 17-10-9, had Senora sand at 1,860 feet; total depth, 1,915 feet; shot with 60 quarts and was cleaning out. Ark Royalty Co. No. 2 Parsons, SW SW NE section 18-10-9, found Senora sand at 1,848 feet, and was rigging up standard tools at 1,850 feet, total depth. Same company's No. 3 Parsons, NE SW NE section 18-10-9, topped sand at 1,848 feet; total depth, 1,882 feet; shot and flowed 440 bbls. of oil and 89 bbls. of water in 20 hours.

Oklahoma County

Two producers were completed in the Oklahoma City field, including another on the state capitol ground at Sunray Oil Co. and Phillips Petroleum Co. No. 12 State, SE NE NW section 27-12-3w. It topped second Wilcox sand at 6,393 feet; total depth, 6,456 feet, and made 24-hour potential of 1,924 bbls. of oil on gas lift.

Hugh Hodges and others No. 1 Fair Park, SW SW NW section 36-12-3w, had best pay and lower Simpson at 6,080 feet, and was bottomed at 6,307 feet. It was shot and flowed 1,435 bbls. of oil by heads in 24 hours, with 7 per cent water.

In the Edmond field, Pure Oil Co. completed No. 11 Malm, SW cor. section 30-14-3w, at 6,707 feet, total depth. It was shot and flowed 716 bbls. of oil in 19½ hours net, and made potential of 1,208 bbls., with 4,057,000 feet of gas. Top of second Wilcox sand was 6,680 feet.

Mid-Continent Petroleum Corp. No. 8 Young, SE SE NE section 31-14-3w, Edmond field, was bottomed at 6,831 feet; plugged back and redrilled to 4,573 feet and was dry and abandoned. It topped Oswego at 6,085 feet; Hunton, 6,570 feet; Sylvan, 6,597 feet; Viola, 6,660 feet; Dense, 6,674 feet.

First reports of new work in Oklahoma County: British American Oil Producing Co. No. 3 Parkway, SW SW NE section 27-12-3w, moving in tools; same company's No. 4 Parkway, SW cor. NE section 27-12-3w, building rig; Travis Petroleum Co. No. 5 Lucas, NW SW SW NW section 36-12-3w, digging cellar; Texas Co. No. 2 School Land, SW SE NE section 36-14-4w, digging cellar and pits; Ohio Oil Co. No. 3 Rankins, NW SE SW section 31-14-3w, digging cellar; same company's No. 4 Dahl, Account 2, SW NE SW section 31-14-3w, location.

Logan County

Carter Oil Co. and Gulf Oil Corp. No. 4 Herren, SW SW NE section 28-17-4w, Crescent pool, Logan County, flowed 323 bbls. of oil in four hours, made potential of 1,449 bbls. of oil and was completed at 6,308 feet, total depth. Gas averaged 8,600,000 feet daily. It had first Wilcox sand at 6,061-6,110 feet, and topped second Wilcox sand at 6,188 feet.

Helmerich & Payne and others No. 1 Hasler, NW NW SE section 14-16-4w, wildcat southeast of the Crescent pool, was temporarily abandoned at 6,575 feet, total depth, in sand. Tops were as follows: Mississippi, 5,945 feet; Chattanooga, 6,012 feet; Hunton, 6,120 feet; Sylvan, 6,130 feet; Viola, 6,240 feet; Simpson, 6,268 feet; first Wilcox, 6,408 feet; second Wilcox, 6,548 feet. Schlumberger test showed only salt water.

Continental Oil Co. No. 6 McConnell, SW SW SE section 28-17-4w, Crescent pool, was digging cellar and pits.

Osage County

No new oil producers were completed in Osage County, but Utilities Production Corp. No. 24 Osage, NW NE SW section 1-27-7, an old gas well, was deepened from 1,523 feet to 2,544 feet, total depth, flowing 45 bbls. of oil a day through tubing and was recompleted. It topped Burgess sand, the producing horizon, at 2,510 feet, and had first oil at 2,537 feet.

Harland No. 80 Osage, SE NW NW section 25-24-11, was completed as a repressure well at 1,736 feet, total depth.

New work in Osage County: Pure Oil Co. No. 148 Osage, NW SE SW NE section 5-23-8, an old well, preparing to deepen; Lewis Production Co. and Peters Oil Corp. No. 2 Osage, SE cor. section 27-24-7, cellar and pits and moving in machine; same operator's No. 5 Osage, SW NW SE section 28-24-7, rigging up standard tools; Peters Oil Corp. and Mid-State No. 11 Osage, SW NE NW section 32-24-9, location.

Cleveland County

The biggest well of the year to date in Oklahoma County was completed in the Moore field, Cleveland County, at Sinclair Prairie Oil Co. and others No. 1 Bagby, SW SW NW section 27-10-2w. It topped second Wilcox sand, the producing horizon, at 7,248 feet and was bottomed at 7,270 feet. On potential test it flowed 6,218 bbls. of oil in four hours. In the last three hours of the test it flowed 4,521 bbls., making potential of 36,168 bbls. Gas volume averaged 70,275,000 feet.

Hughes County

Devon Oil Co. No. 1 Wesley, C S half SE NW section 5-8-10, Hughes County, topped Cromwell sand at 3,077 feet, was bottomed at 3,215 feet, produced 3,500,000 feet of gas and was completed. It had 1,000 pounds rock pressure.

Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1 Chapman, SE SE NE section 36-8-8, Buckner area, was a cellar.

Garvin County

A new producer was completed in the Garvin County sector of the Tussy field by Skelly Oil Co. at No. 2 Gross, NE NE SW section 32-1n-3w. It had broken sand at 2,268-2,312 feet, oil sand at 2,312-66 feet and was bottomed at 2,370 feet. It flowed 235 bbls. of oil in the first 24 hours.

One new Garvin County test was reported. It was Wright Smith No. 2 Yates, SE NW SW section 33-1n-3w, pits.

Lincoln County

Skelly Oil Co. No. 1 Laughlin, C SE NW section 29-17-3e, wildcat northwest of Agra in northern Lincoln County, was completed as a water disposal well at 1,802 feet, total depth. It had first salt water at 1,669 feet.

Sun Oil Co. No. 4 Cook, SW NW SW section 1-14-3e, Chandler area, Lincoln County, was a location. Hayes Drilling Co. and others No. 1 Rice, NE SE NE section 11-14-3e, had dug cellar and pits.

Muskogee County

One new operation was reported in Muskogee County. J. R. Parks No. 3 Woodward, SW cor. section 11-14-17, Muskogee field, set 5-inch casing at 1,932 feet.

Noble County

Sinclair Prairie Oil Co. No. 1 Glockler, NE NE SE section 32-20-2w, Lucien field, was digging cellar and pits. It is in Noble County, one location north of the Logan County line.

Creek County

No new wells were completed in Creek County. Sinclair Prairie Oil Co. No. 16 Ingram, C NE SW section 2-19-7, an old well, was deepened from 2,703 feet to 3,080 feet and completed as a salt water disposal well.

Two new Creek County operations were reported. Sinclair Prairie Oil Co. No. 11 Shoals, SW NE NE section 9-17-8, was moving in machine.

Tulsa County

Somerset Oil Co. No. 3 Depriest, NE SE NE section 35-17-12, southeastern Tulsa County, was dry and abandoned at 1,930 feet, total depth.

Pottawatomie County

Carter Oil Co. No. 1 B. A. Jones, C W half NW NE section 26-11-6, North Keokuk area, Pottawatomie County, was bottomed at 4,174 feet; acidized with 3,000 gallons, but produced only

(Continued on Page 79)

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Among Gulf Coast Drilling Contractors

Al Buchanan of San Antonio has abandoned a test at the Lopez field for the Texas Co.; has completed No. 8 Phillips and No. 3 Webb at Flour Bluff for the Humble Oil and Refining Co. and Barnsdall Oil Co., and is moving the rigs to a new location; has one northwest outpost test below 7,100 feet at the Clara Driscoll field in Nueces County and has two other strings of tools operating at Plymouth and Kohler fields for Plymouth Oil Co. and Humble Oil & Refining Co.

Cron & Gracey are moving in a rig to Coastal Louisiana for Fohs Oil Co. No. 1 State Lake, on a geophysical prospect in Terrebonne Parish. The well will be drilled from piling foundations recently completed after several weeks work. In the Lamar area of Nueces County contract was received from the Barnsdall Oil Co. for No. 1 Edwards, southwest of the discovery well that showed extremely high gas pressure when it nearly got out of control last week after encountering a sand at 7,994 feet. No. 2 Maco Stewart at the Hitchcock Prospect in Galveston County has been spudded for Shell Petroleum Corp. In the meantime progress is being made at West Columbia, Flour Bluff and South Houston fields for Texas Co., Humble Oil & Refining Co. and Stanolind Oil & Gas Co.

Harrison & Dillard repoprt four rigs running for the Stanolind Oil & Gas Co. Two are in the Hastings field, while the others are wildcats on the Hockley dome and an outpost well in the Clinton field, both in Harris County.

Glenn McCarthy is reaching critical depths on two wildcats in Vermilion Parish, Louisiana, and Matagorda County, Texas. Drunella Oil Co. No. 1 Cardwell is coring in sand with a reported oil show at 7,803 feet while in Matagorda County his No. 1 Foley is below 7,363 feet.

Nicklos Drilling Co. completed No. 11-A Homeseekers Development Co. in the Tepetate field for Continental Oil Co., and has moved the rig over for No. 3 P. O. Johnson. At Valentine, Pan American Production Co. No. 2 Harang is drilling below 5,875 feet, while No. 3 Harang has been spudded. For the same company at Port Barre, No. 3 Comier is drilling below 6,200 feet.

George Echols has spudded Ohio Oil Co. No. 1 Hazel Roirt at the south flank of the Pledger field in Brazoria County and is drilling below 3,600 feet. He is nearing the pay on Josey and Bruton test at the Quintana-O'Connor field in Refugio County and continues drilling at the Gillis field in Goliad County for Fohs Oil Co. and Sun Oil Co.

Following the laying of several miles of board road into the south Cotton Lake area, Edwards Drilling Co. is moving in a rig for Kirby Petroleum Co. No. 1 W. D. Haden. Sam Harrison No. 1 J. Byerly in Wharton County is below 800 feet in shale.

Rowan Drilling Co., which is drilling No. 2 Manhattan Fruit Co. on the Venice Salt dome in Plaquemines Parish, Coastal Louisiana, for Tide Water Oil Co., has drilled ahead and is now at 6,734 feet. The well cored saturated sand last week from 6,429-38 feet, and a production test will be made unless a deeper sand is encountered. One test is being rigged up at Fairbanks for Stanolind Oil & Gas Co. and Amerada Petroleum Corp. while another is on location in Evangeline Parish for the Louisiana Crusader Oil Co.

Rutherford Drilling Co. is below 5,500 feet on United North and South Development Co. No. 1 Stoddard, southwest of the Buckeye field in Matagorda County, and is drilling ahead on two wells at the Van Vleck field for the Skelly Oil Co.

Following the announcement of a 10-acre spacing rule for the Segno field in Polk County, several wells are expected to get started within the near future. J. K. Dorrance has derrick up for his second well, while Humble Oil & Refining Co. announced location for No. 1 Kirby Lumber Co. in the P. Garcia Survey.

Grady Vaughn is preparing to retest No. 1 Ellery at the Silsbee field in Hardin County and is drilling ahead on No. 5 Brooks. Both wells are being dug for the Republic Production Co. and Houston Oil Co. who opened the field the latter part of last year.

Smith & McDannald are completing a well in the Louise field for the Pure Oil Co.; moving in rotary to the East Hayes Prospect in Jefferson Davis Parish and have rigged up two new wells in the Dickinson field for Pure Oil Co. In the meantime, operations are carried on in Conroe, South Houston, Sorrento, St. Martin Parish, Long Lake, and Jennings fields for the Stanolind Oil & Gas Co., Pan American Producing Co., Tide Water Oil Co. and Shell Petroleum Corp. Mayo and others No. 1 E. L. Calhoun, southeast of the Van Vleck field has been abandoned in salt water sand at 8,006 feet.

Since the start of the year drilling activity along the Texas Gulf Coast has been confined to the development of proven fields. During the past week 16 locations were made, all in proven areas. At Raccoon Bend, Humble Oil & Refining Co. has started No. 10 Austin and No. 13-X Sherrod, while at Anahuac, Gulf Oil Corp. and Humble Oil & Refining Co. staked four locations. Location was made by Stanolind Oil & Gas Co. for No. 61 Cade in the High Island field. Gulf Oil Corp. and Jenal Oil Co. have rigged up at Big Creek for No. 74 Davis and No. 3 Bryan. Humble Oil & Refining Co. staked No. 1-C Bayou Development Co. at the Dickinson field while at Placedo and Manvel, Magnolia Petroleum Co. and Texas Co. are starting No. 5 Charles Sklar and No. 5 Belcher.

Deep drilling which until the past year has been confined to the Louisiana district has shifted to the Texas Gulf Coast. The past week two

(Continued on Page 96)

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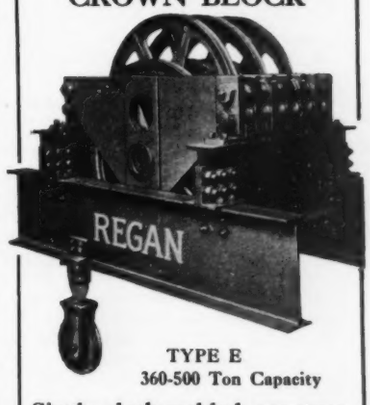

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Southwest Texas District

By
GEORGE WEBER

TWO FIELDS EXTENDED AND OIL IS FOUND IN GAS FIELD

HOUSTON, Tex., Feb. 15.—Aside from two field extensions and a showing of oil in a White Point gas field test, the outstanding activities of the past week in Southwest Texas fields were the further development of the discoveries made the previous week. The new Sweeden field of Duval County is receiving immediate drilling, with two tests started. Likewise, in Aransas County, the discovery well which blew out and cratered, is being offset by a second test which will be watched with considerable interest. In the Saxet field, the new deep 6,900-foot sand was practically opened to production, with the discovery well flowing into pits. Immediate drilling to that horizon is also in progress.

Southeast of the Wellington No. 1 Stockton, discovery well of the London field in Nueces County, a wildcat, after missing the London pay, cored a deeper sand showing wet gas and distillate, and was carried ahead. The extension to the Charamousca field of Duval County was effected by completion of the Duncan No. 3 Worden-Drought, and another test is starting in the field.

In the old White Point field of Nueces County, Crown Central Petroleum Corp. cored a sand at 4,900-05 feet. A 15-minute drill-stem test at 4,888-4,905 feet recovered 2,100 feet of oil and 10 feet of sand and salt water with a working pressure of 30 pounds. Operators are reported running casing. The test is on a 100-acre tract in the J. N. Seguin Survey. If completed for an oil well, it may be the forerunner of considerable drilling operations in the old prospect. White Point is the oldest gas field in the district, and one gas producer is making oil in negligible quantities. It is located in the trend that includes Flour Bluff, Saxet, Taft and Plymouth fields.

Saxet Deep Discovery

In Saxet the Republic Natural Gas Co. No. 3 Ordner, apparent discovery well of a new deep sand, was cleaning into pits at latest reports. The test cored the sand at 6,906-12 feet, and after running 7-inch casing to the bottom, 6,912 feet, perforated at the sand. It is cleaning on a one-eighth inch choke with a casing pressure of 1,950 pounds, and working pressure on the tubing of 900 pounds. Already other tests for the deep sand are drilling, and the announcement of two new locations for field tests which will go to 8,000 feet was made during the week. In the north edge of the field, the Oso Drillers, Inc., No. 4 Roark was carried to a total depth of 7,218 feet, and after an electrical survey the test was plugged back to attempt completion in the 4,800-foot horizon.

Completions in the field included, besides the regular 4,400-, 4,800- and 5,800-foot sands, two in the newly opened 6,700-foot horizon. Another deep test in the field, Conservative Oil Co. No. 4-B Rand Morgan failed to find production in the lower sands. The test did not find the 6,300-foot, 6,700-foot nor 6,900-foot sands, and was plugged back from a total depth of 6,977 feet to test a sand cored at 5,740 feet.

The Republic Natural Gas Co. was still swabbing No. 3-A Donigan at latest reports, in an attempt to complete a 4,900-foot eastward extension to the 4,500-foot sand in the field. Throughout the field, activity is holding up, with over 40 rotaries active. The bulk of activity is expected to swing to the testing of the newly opened deep sands when the drilling of the Clarkwood and 5,800-foot Frio horizons approaches saturation. Considerable proven acreage remains to be drilled in the many different sands of the field, and continued activity is expected to extend those horizons newly opened, and deeper tests will be drilled in search of still lower production.

In the London Area

An interesting development in the London area occurred when Allen and Seaboard Oil Co. No. 2 Chapman, a wildcat, cored sand at 5,066 feet. The test had not picked up the sand producing in the Wellington Oil Co. No. 1 Stockman, discovery well of London, 9,000 feet to the northwest. The sand in No. 2 Chapman was tested and showed 400 pounds of wet gas and 60 feet of mud and gasoline in 10 minutes at 5,050-66 feet. Operators are drilling ahead.

To the west, in Jim Wells County, two active fields, Sandia and West Premont, were showing interesting developments. In West Premont, Tom Graham completed No. 1 Johnson, a west offset to his No. 1 Bennett. The W. F. Morgan No. 1 Laughlin, located in Lots 39 and 42, extended production in the field, fully 2,000 feet northward, bringing additional activity to that section of the pool. A test, located 3,500 feet southwest of the Graham No. 1 Bennett, the discovery well, was abandoned during the week after standing for several weeks. It was Tan-Bay Oil Co. No. 1 Lozana in section 38.

The Sandia field in Jim Wells County showed the possibility of oil production when O. W. Killam's No. 8 Wade recovered gas and 90 feet of oily mud on a drill-stem test at 3,981-4,021 feet. The sand was cored at 4,031 feet. Sandia is an old gas field.

Wildcatting in the Lower Coastal area continues strong, with some new tests staked during the past week. In Aransas County, Barnsdall Oil Co. is moving 660 feet to the southwest of No. 1 Edwards to drill No. 1-A Edwards. The first test, a rank wildcat, blew out last week and cratered. Later bridging over, the test continued to show a high gas pressure through the drill stem, recorded at 4,500 pounds. Operators will kill and abandon the hole, and drill the offset to find the true value of the new discovery. The first test was drilled under strict secrecy regarding showings, and it is not generally known whether or not other indications of production were encountered.

A short distance to the west, the Eleanor O

(Continued on Page 80)

Consistent drilling in the Taft field, San Patricio County, has opened up considerable proven acreage in three different producing horizons. At present activity is strongest in the north and northwest sections of the field, and a west outpost well being drilled by W. B. Craig in a drainage ditch, (indicated by heavy circle), is coring in the 3,900-foot sand of the same field.—(Porter Regenold, Maps, Corpus Christi)

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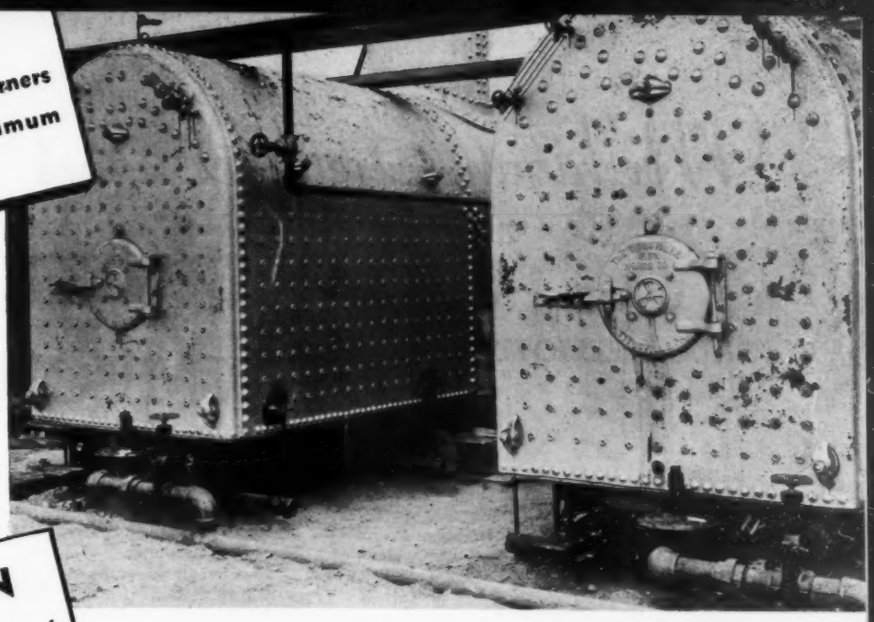

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Michigan Field Report

NEW BUCKEYE POOL PROVES MOST IMPORTANT DISCOVERY

By
PAUL A. ELLIOTT

MUSKEGON, Mich., Feb. 15.—The new Buckeye Township field in Gladwin County stepped definitely into the leadership among four newly developing oil-producing areas in Michigan last week when a 1,250-bbl. Dundee oil well was completed, another boosted to a daily flow of 800 bbls. by acid treatment and a third showing a hole full of oil and prepared to be treated with acid to increase an estimated natural initial of 100 bbls. a day.

As a result of the three Buckeye wells, principally, the state showed an added initial exceeding 2,000 bbls. for the first time in several weeks. Enthusiasm for the showing in Buckeye Township was shown not only in the completed and drilling wells, but also in the issuance of nine of 16 new state conservation department permits for further drilling in this area.

The single discovery well in the Buckeye field brought in by the Wicklund Development Co. also produced an average of 992 bbls. daily during January, it was revealed by the monthly production report of the Oil and Gas Association of Michigan.

The report also showed a substantial strengthening in daily crude runs to 29,140 bbls. from 18 recognized fields as follows:

MICHIGAN DAILY RUNS—JANUARY

Pool—	Wells	Aver. runs
Porter-Yost	423	13,035
Greendale-Chippewa	277	2,251
Geneva-Midland	4	49
Vernon-Leaton-Denver	103	2,670
Sherman-Isabella	5	1,216
Crystal-Montcalm	122	2,723
Home-Edmore	8	168
Vickeryville	1	0
Winfield-Montcalm	1	25
Beaverton	19	631
Buckeye-Oard	4	38
Buckeye-Wicklund	1	992
Ogemaw	175	3,035
Clayton-Arenac	7	1,879
Saginaw	64	94
Birch Run	25	124
Dundee-Monroe	2	20
Muskegon	106	190
Total	1,346	29,140

Allegan County

The Lentz & Miller, Inc., No. 1 Raab test, NW SW NW section 16-4n-13w, in Salem Township, Allegan County, which two weeks ago gave indications of opening a new western Michigan oil field about 40 miles south of Muskegon, had not yet been treated when the past week closed, though it was reported to have flowed by heads and swabbed about 100 bbls. of Upper Traverse crude from a depth of about 1,600 feet. Complete information is being withheld pending acid treatment this week. It is generally conceded to have found a structure indicating possibilities in the Traverse, Dundee, Monroe and possibly the Sylvania, all comparatively shallow formations in this area.

Buckeye-Gladwin

Mammoth Producing & Refining Corp. brought in the new major producer in the Buckeye-Wicklund pool of Gladwin County, No. 1-A State, which made 1,250 bbls. daily from the Dundee topped at 3,548 feet. Pay sands were first encountered at 3,615 feet or 67 feet in the limestone, and at 3,626 feet the well flowed 64 bbls. an hour naturally. It is the southwest diagonal offset to the Wicklund discovery well and is located NE NE NW section 14-18n-1w.

About 25 rigs were active in the vicinity of the Buckeye-Wicklund discovery well, which in addition to the nine new locations placed under permit, make it about the busiest area in the state.

Less than a half mile southwest of the Buckeye-Oard pool discovery well, the Gordon Oil Co. increased the daily output of No. 1 Havens to about 800 bbls. more than a month after it was first drilled into the Dundee oil sands and dropped a string of casing. It is located NE SW NW section 36, same township.

Located in the same section, the Rowmor Corp. struck an estimated natural flow of 100 bbls. daily in No. 1 State, NW NW NE section 36, Buckeye Township, with a hole full of oil at 3,612 feet and still not quite completed. It was to be drilled a little deeper and treated with acid.

Archie M. Henry was still treating a show in the Dundee in No. 1 Little, NE NE SE section 36-17n-2w, Beaverton Township, near the original Gladwin County field, at about 3,878 feet.

Chippewa-Isabella

The surprise well last week in Michigan was an Upper Traverse producer gauged at 359 bbls. daily after acid treatment, brought in by the Chartiers Oil Co. as No. 2 Mumy, NW NE NW section 3-14n-3w, in the old Chippewa Township, Isabella pool, part of the original Mount Pleasant producing area of central Michigan. The No. 2 Mumy cased at 3,002 feet after logging about 600 feet of oil encountered between 3,025 and 3,029 feet. It was treated with 1,000 gallons of acid with the stated result, making it the second largest completion of the week. It will be produced from the Traverse as long as practicable and then drilled to the Dundee, major producing stratum in the field.

Single wells in each of two other Isabella townships attracted principal attention of central Michigan operators, the T. F. Caldwell, Inc., No. 1 Regan & Mahar, NW NW NW section 36-16n-4w, Vernon Township, striking a good show of oil 67½ feet in the Dundee at 3,755½ feet in the Vernon gas field, but about a mile south and west of the previously developed Vernon Township oil field, and the Charles Strange No. 1 State, SW SE SE section 34-15n-6w, Sherman Township, being watched as a possible southeast extension of the new field in this township opened several weeks ago. Production is sought either from the Dundee or Monroe, the latter believed to be the producing stratum in other tests in the vicinity.

The Maynard L. Smith, trustee, No. 1 Hicks Estate test, SW SW NW section 35, same township, proved a disappointment last week when it was dry in the Dundee at 3,656 feet after being cased at 3,460 feet. No show was reported and it was to be plugged and abandoned.

Two Fremont Township wildcat tests in Isabella County also were attracting some attention though not yet deep enough for oil production.

Midland County

Midland County again proved one of the steadier producing areas of the state when Pure Oil Co. brought in Bond-Root No. 18, C S half NW NE section 3-13n-2w, Jasper Township (Yost area) for 270 bbls. daily after acid treatment. It swabbed 50 bbls. a day at 3,438 feet and was completed at that depth.

Pure also was treating a showing struck in the No. 17 Bond-Root, N half SE SE, same section, at 3,452 feet with prospects of completing it this week for commercial production.

Greendale Township, Midland County, contributed one of the five dry holes of the week when Pure No. 1 Fenby, S half NW SE section 33-14n-2w, was dry and abandoned at 3,483 feet, striking bottom water 50 feet in the Dundee topped at 3,433 feet.

Rex Oil & Gas Co. was ready to drill into the Dundee with No. 5 Howland, SE SW NW section 23-13n-1w, Porter Township, on the edge of the state's largest producing oil field.

Clayton-Arenac

Six tests were nearing Dundee completion in the busy Clayton Township area in Arenac County, one of the three leading new fields opened during recent months, but none was added to the record of producers.

Four were testing or treating showings, all of which indicated commercial production. The Gordon Oil Co. was preparing to treat a showing encountered at 2,591 feet, or 156 feet in the Dundee, in No. 1 Crandall, NE NE SE section 10-20n-4e. Gulf Refining Co. reported 350 feet of oil in the hole in No. 1 Kaiander, NE SE NW, same section, struck about 163 feet in the Dundee, while the Turner Petroleum Co. was swabbing and preparing to treat No. 1 Thompson, NW SE SE section 4, also in Clayton Township.

Charles E. Weller hit the Dundee at 2,410 feet and treated for a showing 163 feet in the limestone with prospects of success, while T. F. Caldwell, Inc., No. 1 Peavy, NW SW NE section 9, and the Devonian Oil Co. No. 1 Crandall, NW SE SE section 10, were nearing the Dundee.

James E. Flanigan was reported ready to abandon No. 1 Whipple, NW NW NE section 18-20n-5e, a Mason Township, Arenac County, wildcat, after failure to strike Berea gas, though the hole was drilled to 1,900 feet.

Gasser

The only successful gasser completed last week was the American Production Co. No. 1 Barnes, C SE NE section 8-10n-4w, New Haven Township, Gratiot County, which made 2,500,000 feet daily at 933 feet.

The Elba Gas Corp. met failure in No. 1 Bolyard, C SE SW section 19-9n-1w, Elba Township, and abandoned a gas test at 740 feet. Three Dundee oil tests, all in Gratiot County wildcat territory, were nearing completion in the Dundee, one in Fulton Township and the other two in Sumner Township. Roy F. Ide nearly completed No. 1 Beeson, C SW NW section 3, New Haven Township, a gas test cased at 927 feet and ready to drill into the Michigan Stray sands.

Superior Drilling & Producing Co. also was nearing Michigan Stray gas sand completion of No. 1 Clevenger, C SE SW section 5-12n-7w, Belvidere Township, Montcalm County.

West Michigan Consumers Co. experienced failure in a Berea gas test in the Sullivan sector of the Ravenna field, Muskegon County, when No. 1 Vanderjagt, C NE section 13-9n-15w, was dry, plugged and abandoned at about 1,200 feet. Three other similar tests were cased or casing at 800 to 830 feet ready to complete this week.

Wildcats

Prima Oil Corp. finished No. 1 Fitzpatrick, NE NE NE section 10-8n-4w, Lebanon Township, Clinton County, as a dry hole in the Dundee at 3,027 feet.

C. W. Teater attracted attention to No. 1 A. Keller, NE SW NW section 27-16n-11e, Oliver Township, Huron County, as a possible extension of the new Arenac field when he cased on the top of the Dundee at 2,806 feet.

Jetter Development Co. also cased above the Dundee in No. 1 Egbert, NE NW SW section 12-

(Continued on Page 93)

Rocky Mountain Area

By T. R. INGRAM

EXTEND POWDER WASH POOL; LARGE WELL IN LANCE CREEK

DENVER, Colo., Feb. 15.—The Mountain Fuel Supply Co. has a second oil well on the Powder Wash structure in Moffat County, Colorado, estimated at 1,000 bbls., in sand 2,000 feet higher than in discovery.

The Amerada Petroleum Corp. No. 1 Morton, Laramie County, Wyoming, established new depth record for Rocky Mountain area the past week. The Continental Oil Co. completed its No. 5-A Schuricht in Lance Creek for 2,769 bbls.

Montana operations continue mostly shut down with one active well in Cut Bank and one new location.

NEW MEXICO

Opening of a new lime pool in Lea County appeared likely at Brown & Reynolds No. 1 Parcell, C NW SE section 8-21-38, wildcat 6 miles southeast of the Hardy pool, near Eunice. It topped pay at 4,373 feet, and oil filled the hole at the rate of 143 feet an hour. Gas blew the bailer 350 feet up the hole, and it stuck at 4,020 feet, later being fished out. Several small head flows followed fishing tools out of the hole. Gas was estimated at 1,000,000 feet. Operators were erecting storage and preparing to run 6⅝-inch casing. Location of the well is three-fourths of a mile from the Andrews County, Texas, line. Nearest production is in the Hardy pool, but the pay horizon in the No. 1 Parcell is said to correspond with that of Hobbs field, 12 miles northwest.

Completions in southeastern New Mexico included five oil wells in the Monument area, one in the Eunice field and one in Eddy County.

Amerada Petroleum Corp. No. 2 Byrd, C SW NE section 12-20-36, Monument, topped pay at 3,791 feet; total depth, 3,880 feet, and flowed 13 bbls. of oil in one hour through 2½-inch tubing choke. Humble Oil & Refining Co. No. 2 State D, C NE NE section 20-19-37, flowed 110 bbls. of oil in 12 hours from pay topped at 3,877 feet; total depth, 3,980 feet. Gulf Oil Corp. No. 4 Mathews, C NE SE section 6-20-37, flowed 178 bbls. of oil in six hours through 2-inch choke on tubing and was completed at 3,897 feet, total depth. Top of pay was 3,818 feet. Gas gauged 1,573,000 feet. Empire Oil & Refining Co. No. 4 Laughlin, C NE NE section 8-20-37, topped at 3,825 feet, was bottomed at 3,890 feet, and flowed 111 bbls. of oil in one hour through 3-inch choke on tubing. Stanolind Oil & Refining Co. No. 2 Gillully, C NW NE section 21-20-37, topped pay at 3,818 feet; total depth, 3,866 feet; acidized and flowed 7 bbls. of oil in one hour through three-fourths inch choke on tubing.

In the Eunice area, Samedan Oil Co. No. 2 Hughes, C NW SE section 4-23-37, had pay at 3,600-25 feet, total depth, and swabbed 80 bbls. of oil in 24 hours after shooting with 250 quarts.

Hammond and others No. 1 State, SW SE SW section 15-17-38, was the sole completion in Eddy County. It topped pay at 1,935 feet; was bottomed at 1,967 feet; was shot with 80 quarts and pumped 20 bbls. of oil in 24 hours.

Monument Area

Skelly Oil Co. No. 2 State F, C SW SE sec. 17-20-37. Rigging up rotary.
Continental Oil Co. No. 1 Britt B, C NE NW sec. 8-20-37. Drlg. 3,846 ft.
Phillips Pet. Co. No. 1 Patsy, C NW NE sec. 18-20-37. Drlg. 3,855 ft.; flowed 171 bbls. oil in 50 min.
Gulf Oil Corp. No. 2 Kutter A, C NW SE sec. 20-19-37. T.D. 4,002 ft.; S.D. for orders.
Ohio Oil Co. No. 8 Barber, sec. 5-20-37. T.D. 3,810 ft.; set 7-in. csg.; W.O.C.
Ohio Oil Co. No. 1 Laughlin, sec. 9-20-37. Drlg. 3,485 ft.
Amerada Pet. Corp. No. 1 Love, C NW SE sec. 32-19-37. Drlg. 3,669 ft.
Amerada Pet. Corp. No. 2 Anderson, C SE SW sec. 8-20-37. Drlg. 3,503 ft.
Amerada Pet. Corp. No. 2 Phillips, C NE SW sec. 33-19-37. Drlg. 3,591 ft.
Amerada Pet. Corp. No. 1-W State, C SE NE sec. 30-20-37. T.D. 3,720 ft.; set 6⅝-in. csg.
Amerada Pet. Corp. No. 2-W State, C SW NE sec. 30-20-37. T.D. 3,720 ft.; set 6⅝-in. at 3,710 ft.
Continental Oil Co. No. 1-B-18 Britt, C NW NW sec. 18-20-37. T.D. 3,775 ft.; set 5½-in. csg.; W.O.C.
Gulf Oil Corp. No. 2 Anderson, C NE NW sec. 17-20-37. Drlg. 3,820 ft.
Gulf Oil Corp. No. 2-F Graham-State, NE NE sec. 36-19-36. T.D. 3,908 ft.; swbg.
Gulf Oil Corp. No. 2-B Kutter-State, C NW NW sec. 28-19-37. T.D. 3,978 ft.; flowed 32 bbls. oil in 24 hrs.
Gulf Oil Corp. No. 3 Sunshine, C NE SW sec. 30-20-37. Drlg. 3,175 ft.
Gulf Oil Corp. No. 1-B Weir, C NW SE sec. 26-19-36. Drlg. 3,995 ft.
Gulf Oil Corp. No. 2 Whitmire, C NW NE sec. 8-20-37. Drlg. 3,891 ft.
Oil Well Drlg. Co. No. 1 Wood-State, NW¼ sec. 16-20-37. Drlg. 3,650 ft.
Oil Well Drlg. Co. No. 2 Wood-State, NW sec. 16-20-37. Cellar and pits.
Shell Pet. Corp. No. 4-B State, C SE NW sec. 36-19-36. T.D. 3,789 ft.; W.O.C.
Tide Water Oil Co. No. 2-I State, C NE SW sec. 16-20-37. Drlg. 2,882 ft.
Continental Oil Co. No. 3-A-17 State, C NW SW sec. 17-19-37. Drlg. 1,910 ft.
Anderson-Prichard Oil Co. No. 7 Britt, SE NW SE sec. 7-20-37. Drlg. 1,326 ft.
Anderson-Prichard Oil Co. No. 8 Britt, C SW SE sec. 7-20-37. Drlg. 2,686 ft.
Tide Water Oil Co. No. 2 State I, C NE SW sec. 16-20-37. Cellar and pits.
Amerada Pet. Corp. No. 3 Byrd, sec. 3-12-20. Drlg. 927 ft.
Amerada Pet. Corp. No. 3 Larson, sec. 32-19-37. Drlg. 2,060 ft.
Atlantic Ref. Co. No. 2-M State, sec. 36-20-36. Drlg. 3,580 ft.
General Crude Oil Co. No. 1-G State, sec. 16-20-37. Drlg. 2,084 ft.
Gulf Oil Corp. No. 3 Anderson, sec. 8-20-37. Drlg. 2,845 ft.
Magnolia Pet. Co. No. 2 Cary, sec. 21-22-37. T.D. 1,368 ft.; standardizing.
Repollo Oil Co. No. 5 Barber, sec. 7-20-37. Cellar and pits.
Shell Pet. Corp. No. 1-M State, sec. 1-21-35. Drlg. 3,238 ft.
Texas Co. No. 2-J State, sec. 24-19-36. Drlg. 2,188 ft.
Amerada Pet. Corp. No. 4 Larsen, sec. 32-19-37. Drlg. 1,775 ft.
Texas Co. No. 1 Cook, SW NE NE sec. 32-19-37. Drlg. 30 ft.
Humble O. & R. Co. No. 3 Laughlin, sec. 4-20-37. Drlg. 3,215 ft.
Continental Oil Co. No. 2 Britt B, sec. 18-20-37. Drlg. 1,295 ft.
Continental Oil Co. No. 3 Britt B, sec. 18-20-37. Drlg. 1,070 ft.
Phillips Pet. Co. No. 1 Mexico, NE cor. sec. 18-20-37. Cellar and pits.
Continental Oil Co. No. 11 Sanderson A, C SE SE sec. 11-20-36. Drlg.
Amerada Pet. Corp. No. 4 Byrd, C NE NW sec. 12-20-36. Drlg. 973 ft.
Gulf Oil Corp. No. 2 Hatchett, C SW NW sec. 33-19-37. Cellar and pits.
Gulf Oil Corp. No. 3 Whitmire, C SE NW sec. 8-20-37. Bldg. rig.
Gulf Oil Corp. No. 4 Whitmire, C SE NE sec. 8-20-37. Drlg. 2,247 ft.
Skelly Oil Co. No. 2 Van Etten, C SW SW sec. 9-20-37. Rigging up rotary.
Skelly Oil Co. No. 3 Van Etten, C SE SW sec. 9-20-37. Rigging up rotary.
Humble O. & R. Co. No. 1 State F, C NE SW sec. 17-20-37. T.D. 206 ft.; rng. csg.
Gulf Oil Corp. No. 3 Graham-State F, C NW SE sec. 36-19-36. Bldg. rig.
Amerada Pet. Corp. No. 6 Andrews, C SW SW sec. 12-20-36. Cellar and pits.
Gulf Oil Corp. No. 1 Orcutt C, C SW SE sec. 36-20-36. Bldg. rig.
Barnsdall Oil Co. No. 7 Cooper, C NW SW sec. 7-20-37. Drlg. 300 ft.
Gulf Oil Corp. No. 4 Anderson, C NW NE sec. 17-20-37. Cellar.
Ohio Oil Co. No. 3 State-McGrail, C NE SW sec. 26-19-36. Cellar.
Gulf Oil Corp. No. 4-F Graham State, C SW SE sec. 36-19-36. Derrick.
Amerada Petroleum Corp. No. 5 Byrd, C SE NW sec. 12-20-36. Derrick.

Chaves County

J. & L. Drilling Co. No. 1 Hurd, C SE NW sec. 14-11-26. Drlg. 90 ft.

Eunice Area

Getty Oil Corp. No. 1 State D, C SE NE sec. 32-20-37. T.D. 3,860 ft.; S.D. for orders.
Gulf Oil Corp. No. 2 Molly Campbell, C NE SW sec. 7-21-36. T.D. 3,900 ft.; acidized; testing.
Two States & Southern Pet. Ex. No. 1 McQuatters, C NW SE sec. 11-21-36. T.D. 3,886 ft.; rng. tbg.
Gulf Oil Corp. No. 2 Sunshine, C SE SW sec. 30-20-37. T.D. 3,840 ft.; to acidize.
Texas Pacific Coal & Oil Co. No. 3 State A, Acct. 2, C SW NE sec. 8-22-36. T.D. 3,885 ft.; est. 400 bbls. dly.
Gulf Oil Corp. No. 4-C Bell-State, C SE NW sec. 15-21-36. Drlg. 3,875 ft.
Gulf Oil Corp. No. 4 Collins, C NE SW sec. 14-21-36. Drlg. 3,786 ft.
Gulf Oil Corp. No. 4 Houston, C NW SE sec. 7-21-36. Rigging up rotary.
Gulf Oil Corp. No. 4-C Janda-State, C NE SW sec. 15-21-36. T.D. 3,765 ft.; set 5½-in. csg.
Gulf Oil Corp. No. 4 Leonard, C SW NE sec. 22-21-36. T.D. 3,992 ft.; set 5½-in. csg.
Gulf Oil Corp. No. 6 Orcutt C, C NE NW sec. 6-21-36. T.D. 3,742 ft.; set 5½-in. csg.
Bert Fields et al No. 1 Turner-State, SW SW NE sec. 32-20-37. Drlg. 3,585 ft.
Continental Oil Co. No. 18-B-4 Meyer, C NW NE sec. 4-21-36. Drlg. 3,560 ft.
Continental Oil Co. No. 4-D-11 State, C NE SW sec. 11-21-36. T.D. 1,815 ft.; S.D. for repairs.
Texas Co. No. 3 Rector, NE NW SE sec. 30-21-36. Drlg. 1,700 ft.
Jim Murray No. 4 State-Wallace, sec. 3-21-36. Cellar.
Shell Pet. Corp. No. 3 State K, C SW NE sec. 36-20-36. Drlg. 2,460 ft.
Humble O. & R. Co. No. 10 State-Aggies, sec. 31-20-37. Drlg. 3,054 ft.
Gulf Oil Corp. No. 1 Bell-Ramsey B, C SW SW sec. 29-20-37. Bldg. rig.
Gulf Oil Corp. No. 5 Leonard, C NE NE sec. 22-21-36. Bldg. rig.
Amerada Pet. Corp. No. 3-W State, C SW NE sec. 30-20-37. Cellar and pits.
Amerada Pet. Corp. No. 4-W State, C SE NE sec. 30-20-37. Cellar and pits.
Continental Oil Co. No. 7-D-15 State, C NW SE sec. 15-21-36. Location.
Gulf Oil Corp. No. 12-C Arnott-Ramsey, C NW SE sec. 21-21-36. Derrick.
Shell Pet. Corp. No. 2-H State, CWL NE NE sec. 13-21-35. Rigging up rotary.

Sims Area

Skelly Oil Co. No. 1 R. R. Simms C, C SE SW sec. 3-23-37. T.D. 3,388 ft.; drlg. at 3,332 ft. in new hole.
Penrose & Rowan No. 3 Cary, C SE NW sec. 22-22-37. T.D. 1,150 ft.; S.D.O.
W. H. Street et al No. 1 Wood, C W½ SE NE NE sec. 22-22-37. Drlg. 3,470 ft.
J. E. Farrell No. 1 Walden C, sec. 15-22-37. Drlg. 3,560 ft.
J. E. Farrell No. 1-A Walden, C SW NW sec. 15-22-37. T.D. 3,537 ft.; C.O.
Skelly Oil Co. No. 2 R. R. Simms, C NE SW sec. 3-23-37. Drlg. 2,920 ft.
Skelly Oil Co. No. 2 Ella Simms, C SW NE sec. 3-23-37. Drlg. 3,224 ft.
Skelly Oil Co. No. 4 Baker, C SW NW sec. 27-22-37. Derrick.

Cooper Area

Southern Oil Corp. No. 1 Gates, C SW NW sec. 23-24-26. T.D. 3,514 ft.; S.D. for orders.
Shell Pet. Corp. No. 1 Guthrie, C SW SE sec. 34-23-36. T.D. 3,928 ft.; H.P. 3,780 ft.; S.D. for orders.
El Paso Natural Gas Co. No. 1 G. W. Toby, C SE SE sec. 12-24-36. Drlg. 3,500 ft.
Continental Oil Co. No. 1 Danciger, C NW NE sec. 8-22-36. Cellar and pits.

Lea County—Miscellaneous

Plains Prod. Co. No. 4 Knight, C SW SW sec. 22-24-37. Drlg. 1,425 ft.
C. L. Carlock et al No. 1 Quincy-Ricker, C SE SE sec. 7-16-36. Wildcat; T.D. 5,469 ft.; fishing.
Culberson-Irwin & Stovall No. 2 Stuart, NW SE NE sec. 20-25-7. T.D. 3,277 ft.; P.B. 3,175 ft.; drlg. by whipstock.
Brown & Reynolds No. 1 Parcell, C NW SE sec. 8-21-38. Wildcat; T.D. 4,373 ft.; made several head flows.
Baldridge et al No. 1 Blakely, C NW NE sec. 5-20-38. Wildcat; T.D. 4,340 ft.; fshg.
Tide Water Oil Co. No. 1 Coates B, C NW NW sec. 21-25-37. T.D. 3,077 ft.; P.B. 3,032 ft.; C.O.
Amon G. Carter No. 2 Elliott, C NE NW sec. 22-22-37. T.D. 3,622 ft.; est. 20 bbls. oil per day.
Magnolia Pet. Co. No. 1 State G, NW NW NE sec. 24-17-34. Drlg. 4,704 ft.
Empire O. & R. Co. & Repollo Oil Co. No. 1 Brunson, NW NW SE sec. 4-22-37. Drlg. 3,652 ft.
Anderson-Prichard Oil Corp. No. 2 Carlson, C SW NW sec. 21-25-37. T.D. 2,925 ft.; testing.
Getty Oil Co. No. 1 Etz, C NE NE sec. 12-21-32. Wildcat; drlg. 2,935 ft.
Culberson-Irwin & Stovall No. 3 Stuart, NE SE SW sec. 10-25-37. Cellar and pits.
Continental Oil Co. No. 1 Wantz, C SW SW sec. 21-21-37. T.D. 3,815 ft.; testing.
Maljamar Oil & Gas Co. No. 8 Baish, C SW NW sec. 21-17-32. Drlg. 820 ft.
Mid-Continent Pet. Corp. No. 1 Greer, sec. 21-22-36. Drlg. 3,734 ft.
Ohio Oil Co. No. 5 State-McDonald, sec. 16-22-36. Drlg. 3,890 ft.
Stanolind O. & G. Co. No. 1 Meyers, sec. 22-24-37. Drlg. 3,284 ft.
Texas Co. No. 1 Alexander, sec. 5-21-37. Drlg. 1,750 ft.
El Paso Natural Gas Co. No. 2 Harrison, C NW NW sec. 29-24-37. Drlg. 3,598 ft.
El Paso Natural Gas Co. No. 1 Harrison, C NW NW sec. 7-25-37. Drlg. 3,377 ft.
Continental Oil Co. No. 3-A-19 Eaves, C N half NW SW sec. 9-26-37. T.D. 3,192 ft.; testing.
Sun Oil Co. No. 2 Stewart, C SW NE sec. 15-25-37. Loc.
Tide Water Oil Co. No. 2 Walden, C SW NE sec. 21-22-37. Drlg. 1,050 ft.
Continental Oil Co. No. 1 Skaggs Permit, C NE SE sec. 24-20-37. Wildcat; rigging up rotary.

Tide Water Associated Oil Co. No. 2 Walden, C SW NE sec. 21-22-37. Drlg. 1,320 ft.
Shell Pet. Corp. No. 2 Black, C SW SE sec. 21-24-37. Drlg. 1,350 ft.
Texas Co No. 3 Sheppard B, SW NE NE sec. 5-26-37. T.D. 3,899 ft.; showing oil at 2,869 ft.
J. L. Perry No. 1 Elliott, SE cor. sec. 19-21-37. Standardizing.
Samedan Oil Co. No. 3 Hughes, sec. 4-23-37. Rigging up machine.
Texas Co. No. 2 Black, sec. 21-24-37. Rigging up machine.
Gulf Oil Corp. No. 1 Hardy, C SE SW sec. 20-21-37. Rig.
Mack & Stauffer No. 1 Grizzell, C NW NE sec. 8-22-37. Drlg. 320 ft.
Anderson-Prichard Oil Corp. No. 1 Wells, C SE SE sec. 5-25-37. Cellar and pits.
Herschback et al No. 1 Alston, C SW NE sec. 31-17-37. Wildcat. Loc

Eddy County

Etz Bros. No. 3 State, sec. 16-17-30. T.D. 3,252 ft.; S.D. for csg.
McGinley & Harwell No. 7 Mann, SW cor. sec. 4-18-27. T.D. 1,915 ft.; S.D.
Clint Murchison et al No. 1 State A, C NE SW sec. 16-17-31. T.D. 3,599 ft.; S.D.
Premier Pet. Co. No. 1 McIntyre G, NW NW NE sec. 21-17-30. T.D. 3,357 ft.
Flynn, Welch & Yates No. 75 State, C E½ SE SE sec. 10-19-28. T.D. 2,135 ft.: S.D.O
Flynn, Welch & Yates No. 3 Gissler, SW SE SW sec. 14-17-30. Drlg. 3,360 ft.
Adams et al No. 1 Page, sec. 15-21-18. Wildcat; machine.
Republic Prod. Co. No. 7 Russell A, NW SE NW sec. 18-17-31. Drlg. 1,625 ft.
Red Lakes Oil Co. No. 8 State, SE NW SW sec. 22-17-28. Drlg. 1,345 ft.
Republic Prod. Co. No. 3 Robinson Permit, C NE NE sec. 27-17-29. Drlg. 305 ft.
Neil H. Wills No. 1 Colglazier Permit, C NW NE sec. 20-20-30. Drlg. 1,345 ft.
Barnsdall Oil Co. No. 5 Dodd, sec. 22-17-29. Drlg. 620 ft.
Flint Prod. Co. No. 1 Flint, sec. 14-17-30. Drlg. 3,320 ft.

Roosevelt County

Clovis Corp. No. 2 Wilmes, C SE NE sec. 17-2s-30e. Drlg. 2,050 ft.
Wirt Franklin and Flynn, Welch & Yates No. 1 Catts, C NW NW sec. 28-3n-30e. T.D. 4,760 ft.

Hobbs Field

Stanolind O. & G. Co. No. 30-X Capps, SE sec. 3-19-38. Drlg. 2,960 ft.

Otero County

George Muldey No. 1 State, SW cor. sec. 11-25-8e. Spudded.
O. K. Hearte No. 1 Hattie Evans, NW NW SW sec. 22-24-12. O.W.D.D.; wildcat; drlg. 1,800 ft.

COLORADO

Kiowa County

Gulf Oil Corp. No. 1 Riser-Union Pacific, C SW NE sec. 1-17n-50w. Drlg. 5,648 ft. in Dolomite; top Mississippian 5,373 ft.

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DOW

Moffat County

An important extension of the Powder Wash pool, in which the oil discovery was made two months ago, took place in the past week in the Mountain Fuel Supply Co. No. 1 Hal Stewart, C SW SW section 32-12n-97w. Unofficial reports state that at 3,095 feet, total depth, after the 10¾-inch had been cemented at 3,085 feet with 300 sacks, the well was tested through the drill stem and flowed on a short test at the rate of 1,000 bbls. per day of 45 gravity oil. It will be completed in this horizon. The pay is in the Wasatch of Tertiary age.

Only three wells have been drilled on the structure. Whether the sands correlate better than on the Hiawatha dome 18 miles to the west, where correlation is next to impossible, is not yet known. The importance of the discovery lies not only in the opening of the new oil field, but in the fact that they are the first major discovery of oil in rocks of Tertiary age in the entire Rocky Mountain area.

Anderson-Kerr Drlg. Co. et al No. 1 Govt., C SE SE sec. 19-9n-99w. Drlg. 375 ft.
Mountain Fuel Supply Co. No. 1 Stewart, C SW SW sec. 21-12n-97w. T.D. 3,095 ft.; completing.

Morgan County

Swisher et al No. 1 Lunt, SE cor. sec. 3-4n-60w. Resumed; T.D. 1,718 ft.; rng. tbg. with packer to test.

Park County

South Park Oil Co. No. 1 Lemar, NE NE SE sec. 34-11s-75. Drlg. 3,670 ft.
South Park Oil Co. No. 1 State, SE NE SW sec. 16-11s-75w. T.D. 5,705 ft.; fsg. parted pipe.

WYOMING

Albany County

Murphy Oil Co. No. 5 Hoist, SE NE SE sec. 13-17n-7l. T.D. 3,764 ft.; comp.; prod. not yet released.
Murphy Oil Co. No. 6 Hoist, NW NE SE sec. 13-17n-7l. Drlg. below 2,577 ft.

Big Horn County

Ohio Oil Co. No. 1 Baker-Byron, SE NW sec. 23-56n-97w. Cmtd. 12½-in. at 398 ft. with 250 sacks.
Ohio Oil Co. No. 1 State, NE cor. Lot 38, sec. 36-46n-97. Drlg. 5,364 ft. in Embar; top 5,332 ft.

Carbon County

Ohio Oil Co.-California Co. No. 2 Kyle, C SE SE sec. 26-21n-79w. Cmtd. 12½-in. at 486 ft.; W.O.C.
Ohio Oil Co.-California Co. No. 4 Union Pacific, C SW SW sec. 25-21n-79w. Rig.
Ohio Oil Co. No. 1 H.&C., SE SE SW sec. 35-20n-78w. Drlg. 2,975 ft.; sdy. sh.
Ohio Oil Co. No. 7 H.&C., C NW sec. 2-19-78. Drlg. 5,235 ft. in r.b.
General Pet. Corp. No. 1 Union Pacific, SW NW sec. 13-83w. P.B. from 5,557 ft. and set 8⅝-in. at 2,875 ft.; hole bridged below pipe.

Goshen County

Ohio Oil Co. No. 1 Red Cloud Cattle Co., NW NE NW sec. 28-20n-62w. Drlg. 1,290 ft. in Tertiary.

Laramie County

A new record for the Rocky Mountain area was established the past week in the Amerada Petroleum Corp. No. 1 Morton, southwest of Cheyenne, which reached a depth of 8,752 feet. The record previously was held by the Resolute Oil Co. No. 1 Northern Pacific, Badger Basin field, in Park County, which was completed in 1931 at 8,723 feet. The Amerada well is now in the Dakota series, but is expected to go on down to test the Tensleep at 10,500 feet.

Amerada Pet. Corp. No. 1 Morton, C SW SW sec. 13-13s-68. Drlg. 8,752 ft. in sdy. sh.

Niobrara County

The Continental Oil Co. No. 5-A Schuricht, C NW SW section 5-35n-65w, Lance Creek field, an inside well, an east offset to its No. 4-A Schuricht and a south offset to its No. 3-A Schuricht, was completed at 3,941 feet for an initial production of 2,769 bbls. per day with better than 2,000,000 feet of gas. After testing it was prorated and pinched to 342 bbls. per day. Top of the red beds was at 3,935 feet and the 7-inch was cemented at 3,883 feet. Cores from the Morrison showed oil saturation. Elevation is 4,441 feet.

Continental Oil Co. No. 3-B Schuricht, C SE SE sec. 6-35n-65w. Bldg. rig (first report).
J. M. Huber Corp. No. 1 Midwest, SE SE SW sec. 27-36n-65w. Dismantling old equipment and prep. to install rotary to deepen from 3,540 ft. to the Sundance.
Holly Dev. Co. No. 1 Novick, NE SE SW sec. 6-35n-65. T.D. 3,578 ft.; shot D.P.; 108 ft. still in hole.
Ohio Oil Co. No. 7 Putnam, NE NE SW sec. 33-36n-65w. T.D. 3,501 ft.; rebldg. rig blown down.
Ohio Oil Co. No. 9 Lamb, C SE NW sec. 5-35n-65w. T.D. 4,072 ft.; swbg.

Park County

General Pet. Corp. No. 1 Govt., NW NW NW sec. 21-47-100. S.D. 5,660 ft.; frozen water line.

Platte County

Dividend O. & R. Co., Inc., No. 1, CSL NW SW sec. 17-24n-66. S.D. 2,385 ft.; C.D.

MONTANA

The Montana Oil Conservation Board's statement of production, refining operations and storage for December, 1936, shows changes of only minor importance as compared with November. Total runs from all fields was 494,134 bbls., a decrease of 24,311 bbls. as compared with November. Exports to Canada were 253,004 bbls., a decrease of 69,060 bbls. Storage at the end of December was 1,030,505 bbls., a decrease of 6,100 bbls.

Fallon County

Montana-Dakota Utilities No. 2 Warren No. 1, Unit 5, C SW sec. 23-8n-59e. T.D. 7,360 (C.D.) ft.; will P.B.
Montana-Dakota Utilities Co. No. 3 Smith No. 1, Unit 8, C SE NW sec. 8-4n-62e. T.D. 6,765 ft.; 9⅝-in. cmtd. at 6,750 ft.; W.O.C.

Glacier County

One new operation began moving in materials in the Cut Bank field and only one drilling well was active. The new location is William Hanlon, agent, No. 2 All.-131, an east offset to his No. 1, which swabbed 250 bbls. the first 24 hours last week and was making 7½ bbls. per hour at the end of that period.

Wm. Hanlon, agent, No. 2 All.-131, C Lot 9, (SW NW) sec. 7-32n-5w. M.I.M. (first report).
Glacier Prod. Co. No. 1 Abraham, C SW SE sec. 19-34n-5w. R.O.G. and S.D.
Glacier Prod. Co. No. 5 Seeba, CWL NW NW sec. 2-34n-6w. R.O.G. and S.D.

Petroleum County

H. C. Rowland No. 1 Kalispel, NE NE SE sec. 35-14n-25e. S.D. 690 ft.

Toole County

All drilling wells in the Kevin-Sunburst field continued shut down on account of the weather.

UTAH

Grand County

Columbia Crude Corp. No. 1 Rath, NW SW SW sec. 12-35-20e. T.D. 2,138 ft.; hard, fine, light sand 2,085-2,134 ft.; porous sat. sand 2,135-38 ft.; trying to S.O. 1,700 ft. water at 2,033 ft.

NEBRASKA

The only wildcat in Nebraska which kept going during the blizzard was Smith & Wright's No. 1 Hansen, C SW NW section 24-15n-31, North Platte district, in Lincoln County, and it was forced to shut down this week at 800 feet on account of the weather. This firm, of which Joe D. Cook, one of the pioneers in the Big Horn Basin in Wyoming, is heavily interested, has 60,000 acres blocked up on a northwest trend from North Platte. Location was spotted on both surface geology and a seismograph survey. The structure is on the west side of the Darton Arch, which has been found the most favorable for production in western Kansas. This test was through the quicksand at 480 feet and had slight shows of oil at 624 and 710 feet. The last show was in an unidentified brown sugary sand 40 feet thick. The Sundance is expected at around 2,100 feet and the granite at about 2,400 feet. Wilson M. Smith, of Denver, is in charge of operations.

Nebraska has a standing offer of $15,000 in cash for the first commercial oil well and $15,000 for the first commercial gas well. An effort is being made to get the legislature to increase the amount in order to induce wildcatting.

Lincoln County

Smith & Wright No. 1 Hansen, C SW NW sec. 24-15n-31w. S.D. 800 ft.

Oklahoma Fields

(Continued from Page 72)

water. It was plugged back to 3,448 feet, and shot but failed to make a producer and was dry and abandoned. It topped Misener sand at 4,165 feet.

Okmulgee County

The only Okmulgee County completion was Heindrichs and others No. 7 Coleman, NE NW SW section 29-15-11. It had oil sand at 2,540-44 feet; total depth, 2,568 feet; shot and pumped 10 bbls. of oil in 24 hours.

Eagle Picher Lead & Zinc Co. No. 2-A Bullett, SE SW NE section 27-12-12, was drilling at 846 feet.

Carter County

The only completion in Carter County was at Louis Sikes, Inc., No. 5 Eaves, NE SE NW section 5-2s-2w. It had broken sand at 1,545-58 feet; total depth, 1,700 feet, and pumped 9 bbls. of oil daily.

Pure Oil Co. No. 32 Lowery, SW SE SE section 4-4s-3w, Healdton field, was a machine.

Comanche County

Edwards & Kadane No. 1 Culberson, NW NE NE section 32-2n-10w, Comanche County, an old well, was deepened from 902 feet to 1,002 feet, total depth, and flowed 3 bbls. of oil and 97 bbls. of water, recompleted. It had Granite Wash at 980-85 feet.

Stephens County

Clark & Cowden No. 1-A Tarter, NE SE SE section 9-3n-5w, Loco area, Stephens County, found water at 1,660 feet and was dry and abandoned at 1,667 feet, total depth.

Angle & Angle No. 1 Irvine, SW SW NE section 24-1n-7w, was location for a wildcat southeast of Duncan.

Grady County

T. H. McCasland No. 1 Roy Horton, SE NW NW section 8-3n-5w, Knox area, Grady County, had sand at 2,786-98 feet and was bottomed at 2,803 feet. It flowed 50 bbls. of oil, initially, and was completed as a 35-bbl. daily producer.

T. H. McCasland was rigging up rotary tools at No. 3 Horton, SE NW NW section 8-3n-5w, twin well to No. 1 Horton.

Cotton County

Phillips Petroleum Co. No. 1 H. M. Warren, NE NE SE section 1-5s-13w, wildcat, southeast of Randlett, Cotton County, was dry and abandoned at 3,404 feet, total depth, when chemical test failed. Top of Canyon series was 2,165 feet; Canyon lime, 2,240 feet.

Phillips Petroleum Co. has erected derrick at No. 1 D. J. Moore, SW SW NE section 6-5s-12w, wildcat east of No. 1 Warren.

Jackson County

A gas well was completed in Jackson County at

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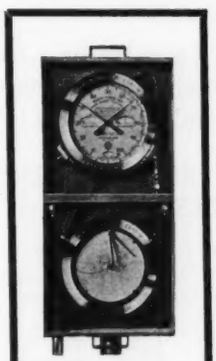

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O. P. Burnham No. 3 Guyman, SW NW SW section 14-1n-20w, Altus field. It had gas sand at 1,063-65 feet; total depth, 1,584 feet; plugged back to 1,070 feet and produced 1,000,000 feet of gas.

Gulf Oil Corp. No. 7 Boucher, NE NW SW section 32-1n-19w, Tipton area, topped Arbuckle lime at 2,780 feet; was bottomed at 2,811 feet; plugged back to 2,721 feet; bailed two bailers of water an hour; shot, tested one-half bailer of oil an hour, with water, and was abandoned.

Jefferson County

Bridwell Oil Co. No. 8 Wahlgemuth, NE NW NW section 30-6s-5w, Spring area, Jefferson County, had dug pits.

Pawnee County

Forest Development Co. No. 1 Gus Markham, SW NE SE section 10-21-5e, wildcat southeast of Pawnee in Pawnee County, was digging pits.

Texas County

Two new tests were reported in Texas County, in the Oklahoma Panhandle. Cabot Carbon Co. No. 1 Castro, C NE section 19-3n-17ecm, and Missouri Valley Gas Corp. No. 1 well, C section 17-6n-14ecm, were locations. Both are wildcats.

Eastern Fields

(Continued from Page 68)

tract, depth 4,560 feet; Brown shale 3,040-4,560 feet, with a total gauge of 256,000 feet a day.

In Cabell County, W. C. Kingery and others completed a test on the C. L. Ritter farm in Guyandotte district; Brown shale 2,510-2,940 feet, gas gauging 555,600 feet a day at 2,625-2,850 feet.

In Calhoun County, Hope Natural Gas Co. completed No. 7,767 Richard White, in Lee district; Big Injun 2,090 feet, with gas gauging 3,330,000 feet a day before shot at 2,094-2,119 feet.

In Sherman district, Calhoun County, Robinson & Wright completed a test on the Martha Brand farm; total depth 2,153 feet; gas at 2,089-92 feet and 2,130-36 feet. The gauge before shot was about 37,300 feet a day. In Center district, J. R. Ferrell and others completed a test on the L. R. Carroll farm gauging 475,000 feet a day from the Berea sand, depth 2,153 feet. In Lee district, Adams & Connelly drilled a test on the Tell McDonald farm through the Injun sand 2,209-58 feet to a depth of 2,268 feet and it was a dry hole.

In Gilmer County, E. L. Bush's test on the Thomas Bush farm in Glenville district, completed in Big Injun sand at a depth of 1,529 feet, gauged 200,000 feet a day.

In Kanawha County, the Owens Illinois Glass Co. test on the Siler Coal Land Co. lease in Washington district, completed 3,963 feet in Brown shale, gauged 667,000 feet a day.

In Mason County, J. C. Blair, agent, test on the Velma K. Hiner farm in Hannon district is a small gas well; total depth 3,861 feet.

In Ritchie County, Moats & Richards completed No. 4 Stout-Jackson lease (Grover Ross) in Grant district, on Berea Run, as a fair gas well. The total depth was 1,790 feet, Keener sand, and the gauge was 1,200,000 feet a day. In Murphy district, W. H. Mossor completed No. 2 W. K. Prunty in Keener sand at 2,026 feet. It gauged 200,000 feet a day. In Grant district, Mellon Brothers deepened a test on the A. J. Null farm through the Berea sand to 2,335 feet and it was dry.

In Wayne County, Lusher & Lusher completed No. 4 V. L. Lusher farm in Union district, total depth 3,355 feet; the Brown shale 2,733-3,330 feet, gas gauging 336,000 feet a day at 2,875-2,900 feet.

Southwest Texas Fields

(Continued from Page 74)

Co. will again drill in the Gregory area, which some months ago was the center of attention due to their activity. The company will drill No. 1 Green Estate, located about 4,000 feet southwest of the No. 1 Kline, which had shows for production.

The Laredo district saw no developments of major importance during the week. In Jim Hogg County the Gifford Oil Co. cored sand at 3,056-61 feet which tested 400 pounds of dry gas in five minutes. The wildcat is coring ahead. It is located about 7 miles northeast of the Randado field.

Two Pools Partly Defined

The Lopez and Loma Novia fields were defined during the week by two failures. In Lopez, Texas Co. abandoned No. 10-A, D.C.R.C. Survey, in section 196, at total depth of 2,405 feet. The test is north and east of production in the northeast arm of the field which has seen such intensive development in the past few months.

Loma Novia was defined on the south by the failure of the Duval Oil Corp. No. 28 Bishop, in section 57. Hoffman, Government Wells, Kohler, Peters and Seven Sisters are scenes of some drilling, but Duval County fields, as a whole, are much quieter than they have been for many months.

The two new discoveries in the county, in the Charamousca and Sweeden fields, were due for immediate drilling. Hiawatha Oil Co. is drilling on two locations in the new Sweeden field, located in south and east offset positions. The Sweeden field, opened by Hiawatha last week, marks the deepest production in the entire district, and is considered to be one of the most important developments of the new year.

The Charamousca field of northwest Duval County was extended by completion of N. V. Duncan's No. 3 Worden & Drought, and that operator is moving in on No. 4 location.

The Lower Rio Grande Valley is seeing more deep drilling, with staking of wildcats in the Willacy-Cameron county section, and the La Sal Vieja field of the former county is again active. The Shell Petroleum Corp. is moving back onto No. 1 Yturria, the discovery well and only producer to date, to rework it. Additional Shell locations have been staked in the area of the field for drilling in the near future, it is reported.

In the La Blanca area of Hidalgo County, the two new producers of Pantana Oil Co. are shut in for the time being, after completion. The Sterling Oil & Refining Co. is drilling a deep test in the field, and Gulf State Oil Co. is moving back onto No. 3 Engleman to deepen it to the horizon producing the Pantana wells.

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LABORATORY TESTS ON OK SLO-SET CEMENT

SETTING TIME TESTS

VICAT NEEDLE

TEMPERATURE	MIXING WATER	INITIAL SET
70° F.	40%	8 Hrs. 30 Min.
130° F.	40%	2 Hrs. 35 Min.
194° F.	40%	3 Hrs. 15 Min.

STRENGTH TESTS

POUNDS PER SQ. INCH

TEMPERATURE	MIXING WATER	—1 DA.—		—3 DA.—		—7 DA.—	
		TENSILE	COMPRESSIVE	TENSILE	COMPRESSIVE	TENSILE	COMPRESSIVE
70° F.	40%	170	1350	325	3300	460	5160
130° F.	40%	350	4030	435	6360	550	6800
194° F.	40%	375	4000	400	4100	425	4200

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California Field Report

By L. P. STOCKMAN

LARGE WELLS IN WILMINGTON FIELD SPUR TO DEVELOPMENT

LOS ANGELES, Calif., Feb. 15.—Recent completions of several noticeably large wells has greatly stimulated drilling operations in the Wilmington field of Los Angeles Basin and a check indicates that at least 10 new wells will be started in this area within the next fortnight and aggressive exploitation is expected to continue for the next several months. The limits of production have been consistently extended and recent completions in proven territory have exceeded expectations. General Petroleum Corp. has just completed the largest well in the field, No. 2 Terminal, near Ford Avenue and Long Beach Boulevard. It was brought in flowing 2,021 bbls. of clean 20.6 gravity oil per day from a depth of 3,629 feet. The hole was finished with 672 feet of 8⅝-inch perforated liner, landed on bottom and cemented through perforations at 2,940 feet. Bankline Oil Co. No. 22 Pacific Terminal Community has been finished flowing 238 bbls. of clean 18.9 gravity oil per day from 3,341 feet. This well blew in flowing between the drill pipe and casing while the perforations were being washed out and is still producing in this manner. It is the present intention to permit it to flow undisturbed as long as current production is maintained. The Royalty Service Corp.'s well, No. 21-5, in this field has been completed flowing 410 bbls. of clean 19.3 gravity oil daily. This new producer is bottomed at 2,350 feet and finished with an 8⅝-inch liner including 498 feet of perforated.

General Petroleum Corp. was the successful bidder for the most sought after piece of acreage in California and consequently acquired a lease on the Ford Motor Co. assembly plant in the Wilmington field of Los Angeles harbor. The company has already started two wells on the property and both should be completed within 30 days as the formation is conducive to fast footage and the completion depth is relatively shallow, 3,600 feet. The Ford plant is located almost within a stone's throw of General Petroleum's discovery well and is therefore proved up for large production. The property was leased on the stipulation that drilling operations must be conducted without interfering with work at the plant. The property is susceptible of directional drilling and should show a substantial recovery per acre due to the large drainage area provided beneath the assembly plant and adjacent Long Beach ship channel.

El Segundo

Richfield Oil Co. in the El Segundo field landed a 7-inch water string in No. 2 El Segundo. Top of Nodular shale was logged at 7,117 feet and top of the Conglomerate oil zone at 7,251 feet. This should prove to be a prolific well upon completion as the zone logged looks exceptionally good. Republic Petroleum Corp., with three strings of tools in operation, is expected to start another well in the northern end of the field on the Varney lease. The Texas Co., Caminol and Ohio Oil Co. are making good footage in their respective tests and should be ready to make production tests in another few weeks. Productive limits of the El Segundo field have not yet been determined. If the Union Oil Co. develops commercial production in No. 1 Security, the most southerly well drilling in the field, and if the Texas Co. successfully completes No. 2-1 Johnson, in the extreme eastern end of the field, the starting of approximately 10 new wells in the territory between these outposts and present production may be expected.

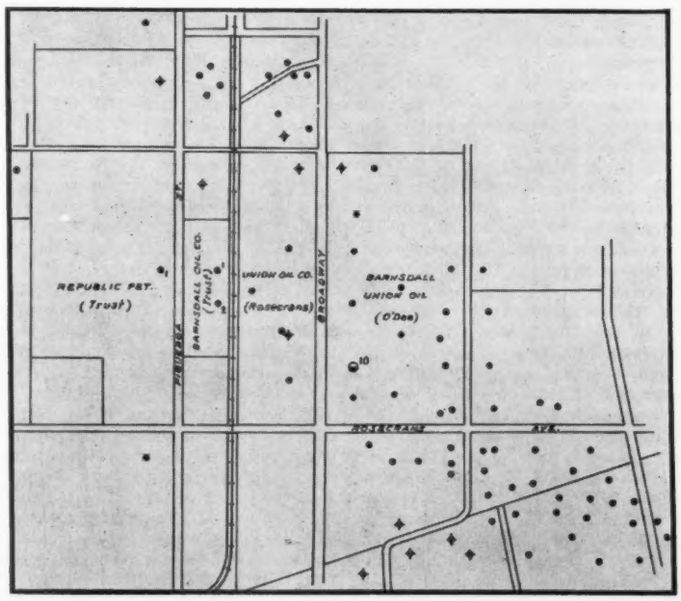
Republic Petroleum Corp., discoverer of the El Segundo field, has acquired the last remaining piece of potentially productive acreage in the field by taking a lease on the 25-acre Varney property located east of the discovery well and north of Richfield Oil Co. No. 1 El Segundo, largest completion listed in the field. This new lease gives Republic Petroleum a total of 130 acres in the field. Well logs indicate that the apex of the El Segundo structure is southeast of Republic Petroleum's discovery well and this makes the Union Oil Co.'s Security lease, embracing about 320 acres, look exceptionally promising. Union Oil Co. has set a fast record for drilling in its initial undertaking in this field and at the present rate should have this well ready for a production test within three weeks, as the bit is at present rotating ahead at 6,870 feet. Richfield Oil Co. in the meantime should throw additional light on the productivity of the field, however, as No. 2 El Segundo should be completed within a fortnight.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	February 4		January 28			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	.....	70,808	.....
Gasoline	.....	.....	.....	.....	79,106	637,915
Kerosene	.....	.....	.....	.....	.....	228,486
Foreign exports:						
Crude oil	92,810	13,259	389,498	55,643	661,095	596,285
Fuel oil	45,400	6,486	139,085	19,869	1,350,988	1,219,867
Diesel and gas oil	55,903	7,986	204,613	29,230	927,304	309,922
Gasoline	162,271	23,182	75,799	10,828	508,239	591,837
Kerosene	109,063	15,580	157,064	22,438	402,049	23,406
Coastwise-domestic:						
Crude oil	64,707	9,244	172,350	24,621	649,359	554,557
Fuel oil	357,358	51,051	253,653	36,236	1,178,196	958,609
Diesel and gas oil	9,939	1,420	2,680	383	62,711	178,088
Gasoline	140,920	20,131	202,923	28,989	1,091,918	1,265,342
Kerosene	.....	.....	.....	.....	2,199	47,852

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	.....	75,895	.....
Foreign exports:						
Crude oil	.....	.....	.....	.....	244,600	192,079
Fuel oil	.....	.....	127,960	18,280	127,960	137,440
Diesel and gas oil	100,364	14,338	7,480	1,069	322,233	.....
Gasoline	21,812	3,116	245,915	35,131	513,969	453,065
Kerosene	.....	.....	48,901	6,986	66,837	26,678
Lubricants	.....	.....	10,937	1,562	25,353	14,343
Coastwise-domestic:						
Fuel oil	.....	.....	64,781	9,254	423,602	611,355
Diesel and gas oil	.....	.....	.....	.....	58,124	60,935
Gasoline	66,151	9,450	62,555	8,936	425,208	389,790
Kerosene	.....	.....	.....	.....	3,367	15,699



Barnsdall Oil Co. No. 10 O'Dea, which is being drilled as a deep test in Rosecrans field of Los Angeles Basin, is expected to discover a new deep virgin zone

Rosecrans

Barnsdall Oil Co. is expected to prove up the existence of a new deep zone in the Rosecrans field of Los Angeles Basin as the company's No. 10 O'Dea is at present drilling at 7,419 feet. This field yields an exceptionally high grade of crude oil and this may be the determining factor in future drilling if Barnsdall succeeds in developing commercial production in No. 10 O'Dea.

Promising Wildcats

The Reserve Oil & Gas Co. is making preparations to conduct a production test on No. 33-3 in the Tejon ranch district of Kern County. No. 33-3 in section 32-11-29, which staged a premature blowout a few weeks ago, was given a preliminary production test a few days ago and showed approximately 11,000,000 feet of natural gas and a spray of light oil. The company will install a gas trap and proceed with a conclusive test in the near future. The well is at the present time standing shut in with a pressure of 1,700 pounds on the tubing and 2,000 pounds on the casing. This is the third well drilled by the Reserve Oil & Gas Co. in this district and oil and gas showings have been logged in all three wells. Ohio Oil Co. is reaming No. 2 Title Insurance in section 21-11-19, preparatory to landing a string of casing for a test of showings found at the bottom of the hole.

Barnsdall Oil Co. is bailing and swabbing No. 1 San Francisco, a wildcat located in the Newhall area of Los Angeles Basin, but the company may be obliged to reenter the hole and effect a clean-up job. This test is bottomed in Miocene oil sand at 6,276 feet and is flowing at the rate of approximately 1,000,000 feet of wet gas per day. In the Cantua district of Fresno County, Western Gulf Oil Co., failing to develop commercial production in No. 3 S.P. in section 3-17-15, at 8,500 feet, has reentered the hole and will clean out to bottom before resuming production operations. The Texas Co. is reaming its second

wildcat in the Eureka district of Humboldt County and may land a string of casing in this test, bottomed at 7,418 feet, before drilling ahead.

Ventura County

General Petroleum Corp. completed No. 5 Ferguson in the Rincon district of Ventura County, flowing 688 bbls. of relatively clean 28.1 gravity oil per day from 2,828 feet. The well was finished with an 8⅝-inch liner including 121 feet of perforated and 2,649 feet of 2½-inch tubing. Chanslor Canfield Midway Oil Co. No. 9-B Hobson in the Rincon field, which blew in last week flowing approximately 500 bbls. per day after the 8⅝-inch had been reperforated, is at present flowing steadily at the rate of 320 bbls. per day. In the San Miguelito field, Continental Oil Co. is making preparations to complete No. 6 Grubb and has a new rig going up for No. 7 Grubb. In the Ventura Avenue field, Associated Oil Co. has completed No. 78 Lloyd flowing 145 bbls. of 29.1 gravity oil per day from the upper zone at 4,825 feet. This new well, which was finished with a 5¾-inch liner carrying 147 feet of perforated, did not have sufficient kick to result in a natural flow and the well was accordingly placed on the beam.

Kern River

Republic Petroleum Corp. extended the proven limits of the Strassburger lease in the Kern River field by completing No. 16 pumping 198 bbls. of clean 15.4 gravity oil per day from 1,941 feet after finishing the hole with an 8⅝-inch liner carrying 163 feet of perforated, and has staked location for No. 12 Strassburger, north of No. 16 Strassburger. The Apex Petroleum Corp. No. 10-1, in section 10-28-27, was completed, pumping 201 bbls. of 15.9 gravity oil daily after the hole had been plugged back from 2,252 feet to 2,174 feet and finished with a 6⅝-inch liner carrying 119 feet of perforated. Honolulu Oil Corp. No. 48 Premier, in section 8-27-27, was completed, pumping 227 bbls. of 15.6 gravity oil daily from 2,976 feet. In the Premier district of Kern County, Roscoe & Stanley completed No. 2 Newhope pumping 203 bbls. of clean 14.5 gravity oil per day from 2,645 feet after finishing the hole with a 6⅝-inch liner including 165 feet of perforated.

Midway-Sunset

In the Midway-Sunset field of Kern County, Honolulu Oil Corp. completed No. 26 in section 14-32-24 flowing 662 bbls. of clean 23.5 gravity oil and 360,000 feet of gas per day from 3,470 feet. Union Oil Co. completed No. 4 Williams, in section 22-32-23, pumping 298 bbls. of relatively clean 16.9 gravity oil daily from 2,122 feet. In section 33-32-24, Standard Oil Co. has completed No. 216-33-D, pumping 172 bbls. of 22.4 gravity oil per day from 2,830 feet. Frank Goldman No. 5 Keene, in section 22-32-23, registered an initial production of 144 bbls. at 2,055 feet after the hole had been finished with a 6⅝-inch liner carrying 355 feet of perforated.

In the Fruitvale field of Kern County, H. H. Magee completed his No. 1 Gilmore in section 23-29-27, pumping 102 bbls. of 21.6 gravity oil per day from 3,185 feet after the hole had been finished with a 7-inch liner including 30 feet of perforated. E. J. Kasey and associates have picked up the pay in No. 1, section 23-29-27, at 3,061 feet and a string of 8⅝-inch casing has been landed and cemented 53 feet off bottom at 3,061 feet.

Santa Fe Springs

General Petroleum Corp. completed No. 43-C Santa Fe, in the Santa Fe Springs field of Los Angeles Basin, pumping 466 bbls. of relatively clean 32.2 gravity oil per day from 3,780 feet. In the Richfield district of Los Angeles Basin, Union Oil Co. completed two new wells on the Chapman lease and is rigging up three additional wells for immediate work. No. 41 Chapman, bottomed at 3,604 feet, was completed pumping 164 bbls. of fairly clean 22.4 gravity oil, while No. 42 Chapman was brought in pumping 201 bbls. of 22.3 gravity oil per day from 3,648 feet.

In the Torrance field, Frans-Nelson Petroleum Co. has completed No. 2 Redondo pumping 54 bbls. of 18.2 gravity oil per day from 3,418 feet after the hole had been plugged from 3,525 feet.

In the Huntington Beach field, Richfield Oil Co. recompleted No. 10 Fidelity, redrilled to 3,960 feet and returned to production pumping 110 bbls. of 26.1 gravity oil per day after the hole had been finished with a 6⅝-inch liner carrying 188 feet of perforated. Same company's No. 1 Crowell, a new completion, was good for 85 bbls. of 19.9 gravity oil per day at 3,986 feet after the hole had been plugged back from 4,650 feet. Shell Oil Co. recompleted No. 4-A Alamitos in the Long Beach field after plugging back from 4,780 feet to 4,595 feet, but the resulting production, 156 bbls. per day, is showing a 30 per cent cut. In the East Coyote field, Graham & Loftus Oil Corp. completed No. 1 Perkins, pumping 61 bbls. of 25.1 gravity oil per day from 4,326 feet.

Kettleman Hills

The Kettleman North Dome Association completed No. 81-32-J, in section 32-21-17, in the Kettleman North Dome field, flowing 524 bbls. of unusually clean 39.1 gravity oil and 1,490,000 feet of gas per day from 8,145 feet. Top of the brown shale was logged in this well at 5,470 feet and top of the Temblor was encountered at 6,752 feet. In No. 36-28-J, Kenda has topped the brown shale at 5,595 feet and was still rotating ahead in this formation at 6,142 feet. The Association is reaming No. 25-20-J and should have this well ready for a production test within the next 10 days as drilling operations have been concluded at 8,650 feet. No. 63-28-J, in section 28-21-17, showed water on a production test made from 8,480 feet and will require some remedial work before being listed as a successful completion. Standard Oil Co. is abandoning No. 46-13-H in section 13-21-16 at 9,597 feet due to mechanical trouble. In the Middle dome of Kettleman Hills, Standard Oil Co. is washing the perforations with acid in a determined effort to complete No. 46-19-V in section 19-23-19 as a commercial producer. Two redrilling jobs are being started in the North dome, Associated Oil Co. rigging up No. 3 Whepley in section 35-21-17 and Union Oil Co. rigging up No. 2 Amerada King in section 29-21-17. The Temblor Oil Co. has acquired a lease on the Bunting property in section 25-23-18 and will redrill and deepen No. 1 Bunting, which was carried down to 5,935 feet and abandoned at that depth by Universal Oil Consolidated.

Central West

Operations in Central Ohio, Kentucky, Illinois, Indiana

By GEORGE A. WHITNEY

FINDLAY, Ohio, Feb. 15.—Activity in the Central Ohio field is returning to normal and the majority of the wells, which were shut down because of high water, have resumed operations. Other sections of the Central West fields have not been so fortunate, however, and operators in those districts will be occupied with cleaning up and repair work for the next few weeks.

A review of completed operations for the past week shows 12 gas wells, 5 dry holes and 1 oil well in the Central Ohio field and two gas wells, one dry hole and one 20-bbl. producer in the Indiana field. There were no operations reported in the Kentucky fields or in the Illinois field, but two or three deep tests should be nearing completion in the latter field.

Two new tests have been started in Huron County and from all appearances a great deal of redrilling and exploration will be undertaken in this section during the coming year. Williams & Co. are spudding in a test on the L. and F. Chapin farm in section 2, Bronson Township, and McCorkill & Co. has started operations for a test on the W. and M. Bellamy farm in section 3, Hartland Township.

In Richland County, section 19, Worthington Township, Ohio Fuel Gas Co. No. 1 L. Devilbiss was drilled to a total depth of 2,667 feet without finding the sand and it has been abandoned.

In Ashland County, section 13, Hanover Township, Ohio Fuel Gas Co. No. 1 H. Heffelfinger was drilled through the bottom sand at 3,001-12 feet and was completed as a large gas well.

Lyons & Co. No. 1 Sippo Lake Co. in section 2, Perry Township, Stark County, was completed below the Clinton sand at 4,372-96 feet and gauged 4,257,000 feet of gas after a shot. In section 17, Jackson Township, Ohio Fuel Gas Co. No. 1 Elmer Rohr was completed in the same sand at 4,132-57 feet, and was a small gas well. In section 3, same township, Brendal Producing Co. is spudding on the Clark Stark property.

In Holmes County, section 20, Monroe Township, Ohio Fuel Gas Co. No. 2 Burgess Bird was completed below the Clinton sand at 3,401-21 feet and was a commercial gas well.

In Tuscarawas County, section 1, Mill Township, Walton & Co. No. 2 D. W. Welch was drilled through the top Berea sand at 931 feet to a total depth of 1,009 feet and was plugged and abandoned after making a small show of gas at 941 feet. The same operators have machinery on location for the second test on the Buckeye Fire Clay Co. property in section 4, same township.

Upham Gas Co. No. 1 J. B. Harding, in section 21, Union Township, Knox County, was drilled 90 feet into the top lime at 1,980 feet and made 80,000 feet of gas naturally. It has been turned into the line to see what it will do and if the volume should blow down it will probably be drilled deeper. In section 10, Jackson Township, Hulse-Kuntz, Inc. No. 1 Lovey Stone has been drilled into the sand at 3,141-93 feet and is being cleaned out after a shot.

In Hancock County, section 22, Pleasant Township, O'Connor & Co. No. 1 M. R. Rader was completed below the Trenton sand at 1,391-1,425 feet and has a settled production of 20,000 feet of gas and 3 bbls. of oil.

Harmon & George are rigged up for a test on the Mary Long farm, in section 4, Congress Township, Wayne County.

In Fairfield County, section 8, Pleasants Township, City Natural Gas Works No. 2 Chester Beiaze was drilled through the Clinton sand without a showing of oil or gas and has been abandoned.

In Scioto County, section 15, Bloom Township, Wood No. 1 J. Rickart was drilled through the Weir sand at 480-86 feet to a total depth of 604 feet and after this depth was proved dry the hole was plugged back to 486 feet where it is making 6,000 feet of gas and has a rock pressure of 120 pounds.

Ohio Fuel Gas Co. No. 1 William Dillinger, in section 32, Bedford Township, Meigs County, was completed below the second Berea sand at 1,566-80 feet and was a small commercial gas well. In section 31, the same company completed the second test on the George Heilman farm in the same sand at 1,676-90 feet as a commercial gas well. In section 28, Lebanon Township, Meigs Development Co. No. 1 Luther Lane was drilled through the first Berea sand at 2,144-48 feet without finding oil, gas or water and has been abandoned. In section 1, Rutland Township, Ohio Fuel Gas Co. No. 2 Emerson Hysell, which was completed as a commercial gas well a few weeks ago, has been abandoned. The gas was drowned out by water and the operators were unable to save the production. In section 17, Lebanon Township, Ohio Fuel Gas Co. No. 2 Lucy Roush was completed as a small gas well in the first Berea sand at 1,932-35 feet. In section 36, same township, Goodfellows Co. No. 2 Charles Circle was drilled through the first Berea sand at 1,919-21 feet and gauged 85,000 feet of gas naturally.

In Lorain County, section 4, Lagrange Township, C. J. Daugherty is spudding on the E. Nichols location.

Ohio Fuel Gas Co. No. 1 D. W. Lambert heirs, in section 18, Bern Township, Athens County, was drilled through the Maxsburg 800-foot sand and the Maxon sand at 955-82 feet

(Continued on Page 98)

Texas and Louisiana Gulf

By F. L. SINGLETON

TERREBONNE PARISH'S GOOD PROSPECT FOR 2 NEW POOLS

HOUSTON, Tex., Feb. 15.—Two new fields for Coastal Louisiana district were apparently in the making as preparations were being made to run casing preparatory to testing two wildcats in Terrebonne Parish after preliminary tests showed favorable indications.

In the northern part of Terrebonne Parish on what is known as the Bayou Cocotriz Prospect, Shell Petroleum Corp. is running 7-inch casing for a production test of No. 1-B Realty after a 12-minute drill stem test at 9,454-83 feet, the total depth, showed 200 pounds of gas pressure with the well heading oil, mud and gas for 33 minutes. After the tester had been pulled 12 bbls. of 37.2 gravity oil was recovered with no showing of salt water. The sand section was cored at 9,461-83 feet and 7-inch casing will be cemented at 9,457 feet.

This prospect is 18 miles southeast of Morgan City centering in section 19-17s-15e, and was found with reflection seismograph shooting by Shell in 1935. Humble Oil & Refining Co. is said to have considerable protection as well as Barnsdall Oil Co.

To the southeast approximately 24 miles and located on the northeast flank of the Houma gas field, Humble Oil & Refining Co. No. 1 Ellender in section 23-19s-19e, is bottomed in a sidetracked hole at 8,744 feet and 7-inch casing is being run after the following results were recorded on an electrical coring test: Five ohms resistance and 38 millivolts porosity at 8,194-8,200 feet; 7 ohms and 10 millivolts at 8,200-25 feet; 27 ohms and 23 millivolts at 8,385-8,430 feet and 24 ohms and 20 millivolts at 8,431-8,450 feet. The hole was originally drilled to 8,757 feet and while it was being reamed preparatory to running casing, the drill stem was twisted off, resulting in the hole being plugged back and sidetracked at 7,295 feet.

The Houma gas field is a comparatively small area in which several small gas wells have been completed in the Pliocene sand at 2,350-3,300 feet. The acreage on which No. 1 Ellender is located was blocked by the Adams Royalty Co. and turned to Humble Oil & Refining Co. after extensive geophysical work had been done. This is the first deep test ever drilled in that immediate area.

Other Interesting Wildcats

Two other wildcats were being watched with interest after having encountered reports of showing of oil and gas. On the East Erath Prospect, Vermilion Parish, Drunella Oil Co. No. 1 Cardwell in section 41-13s-4e, is coring sand at 7,803 feet which is reported have carried an oil showing at that depth. East of the Tepetate field and located on the China Prospect, Jefferson Davis Parish, Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 1 Calcasieu National Bank is coring in shale below 8,505 feet, after an electrical coring test was made to 8,501 feet. The results of the coring are not known at this time, although a previous test made at 6,925 feet is reported to have correlated the well approximately 200 feet higher than the highest well in the Tepetate field which produces from a 8,300-foot sand. Three ohms resistivity and 105 millivolts porosity was recorded in sand at 7,006-19 feet and a sand section showing oil was topped at 7,595 feet.

In the Cankton field, St. Landry Parish, Superior Oil Producing Co. No. 2 A. Savoie is bottomed in sand at 6,588 feet and 7-inch casing is being run. No. 1 Brasseaux is a new location and is situated 1,045 feet north of the southwest corner of section 24, thence 2,500 feet east in section 24-8s-3w.

After making an electrical coring test, the results of which are not known at this time, Tide Water Oil Co. No. 2 Manhattan Fruit Co., located on the Venice Salt dome in Plaquemines Parish, is bottomed at 6,734 feet with the drill stem stuck. No test was made of the sand section cored last week from 6,429-38 feet. This is the second test drilled on the dome by the company, being situated 200 feet southeast of No. 1 in section 26-12s-36e.

In Lafourche Parish, William Helis No. 1 City of New Orleans which proved up the Marchland Prospect as a salt dome structure two weeks ago, is bottomed at 8,012 feet and the hole is being used for geophysical purposes. The well, which is in section 19-23s-23e, topped the salt at 7,463 feet.

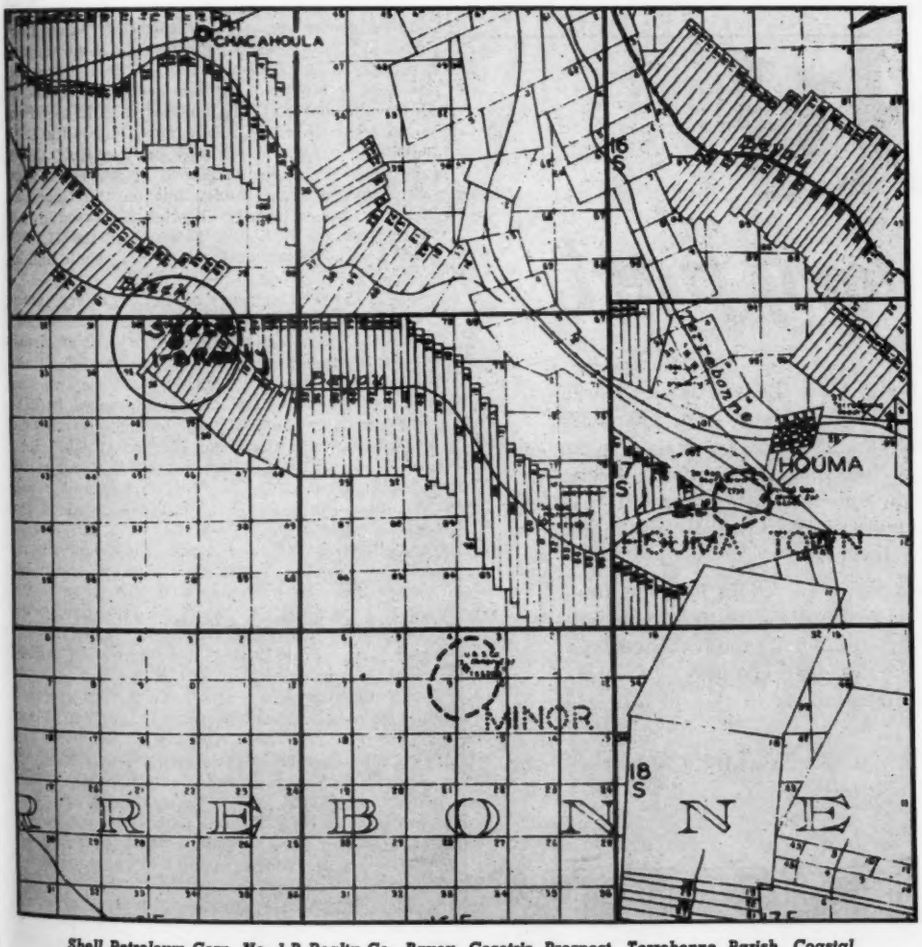
The second producer in the Charenton field, St. Mary Parish, was indicated by Pan American Production Co. No. 2 Laws Realty Co., about 1,000 feet south of production in section 30-13s-10e. On a five-minute drill stem test through quarter-inch chokes at top and bottom at 7,184-94 feet, it showed 1,000 feet of pipe-line oil and 65 pounds of pressure. Seven-inch casing is being cemented. This is the first well drilled in the field by Pan American after taking over the discovery well and operating control of the block Mike Hogg and associates. East of the No. 1 Lawes, the companys No. 1 South Coast Corp. is shut down at 6,934 feet due to high water from Bayou Teche.

On the Darrow dome, Ascension Parish, Humble Oil & Refining Co. No. 14 Community topped oil sand at 5,603 feet and on a drill stem test at 5,549-5,613 feet, the total depth, it showed 50 stands of oil and 95 pounds of pressure. Following the running of an electrical coring test, casing will be run for a production test. Location is in section 29-10s-2e.

Superior Oil Producing Co. No. 1 Clenny Savoie in section 47 of the Bayou Mallet field, Acadia Parish, has been completed for a gas well through perforated casing at 7,189-93 feet with 2,600 pounds of tubing pressure. Derrick is up for No. 5 George Bradly located 550 feet west of No. 3 in section 52-7s-1e.

On the Conroe Trend

A general drilling campaign along the Conroe Trend in the northern part of the district gained momentum the past week by the announcement of two more wildcats. In Evangeline Parish, Belle Chenney Springs Oil Co. has spudded No. 1 Belle Chenney Springs Land and Development Co., located in section 10-2s-1w, while in Rapides Parish R. D. Webb and others have rigged up No.



Shell Petroleum Corp. No. 1-B Realty Co., Bayou Cocotriz Prospect, Terrebonne Parish, Coastal Louisiana, where casing is being run to test after a drill stem test showed oil and gas at 9,454-83 feet, total depth—(W. W. Zingery, Maps, Houston)

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VALVES-PIPE FITTINGS-FIRE HYDRANTS

1 A. M. Brasher in section 22-4n-2w. Two recent locations made along this trend in Evangeline Parish are Continental Oil Co. No. 1 Pardee Lumber Co. in section 18-4s-1w and Louisiana Crusader Oil Corp. No. 1 Hattie Haas in section 2-3s-5e which is drilling below 4,520 feet.

Texas Coastal Area

Along the Texas Gulf Coast, Humble Oil & Refining Co. No. 1 Jefferson Land Co. located on the Cheek Prospect, Jefferson County, was holding attention in that area as the well has made several attempts to blow out at 8,232 feet, the total depth. Seven-inch casing is being cemented at approximately 8,150 feet. It is the opinion that the gas is coming from sand encountered at 7,830-94 feet which is in the Frio section topped at 7,491 feet. The casing is being run as protection and the hole will be drilled deeper before a production test is made.

In the South Cotton Lake area, Chambers County, Salt Dome Oil Corp.'s first production test to be made of No. 1-B Lawrence, 704 feet south of its No. 1-A Lawrence, tested salt water and drilling mud cut with oil and gas in the lower section of the Frio sand, and casing is being cemented on bottom at 6,532 feet preparatory to testing through perforations at 6,493-98 feet. The sand was topped at 6,527 feet and the drill stem test was attempted with the seat at 6,523 feet, but the seat slipped to 6,526 feet and held for eight minutes, recovering 1,440 feet of fluid, with the top 270 feet being drilling mud, cut with oil and gas and the balance salt water. The test definitely proves that the water is coming from the bottom of the hole and the sand section which is to be tested through perforations, is the same sand from which No. 1-A Lawrence is producing distillate. Location is in the S. Barrow Survey, about 2½ miles south of the Cotton Lake field, which is producing from the Marginulina sand at 6,300 feet.

New Sand Discovery

Harrison & Abercrombie No. 3 Bernard River Land Development Co. has apparently uncovered a third producing sand in the Old Ocean field, Brazoria County, as it is coring in sand showing extremely high pressure at 10,265 feet. The well has tried to blow out but was controlled by adding heavy mud material. It is situated 1,972 feet from No. 2 in the Charles Breen Survey and is the third 10,000-foot well ever drilled on the Gulf Coast. Production has been developed at 8,600 and 9,900 feet. In the same county but on the Chocolate Bayou Prospect, Beatty, Bowles & Borsodi No. 1 Frank Truska in Lot 4, Block 8 of the H.T.&B. Survey, is bottomed at 10,041 feet in shale and an electrical coring test is being made.

Republic Production Co. No. 1 Ellery, about 2,000 feet south of production in the Silsbee field, Hardin County, made a 10-minute drill stem test at 6,942-73 feet and recovered 840 feet of oil and 300 feet of salt water with 60 pounds of working pressure, and the hole has been plugged back to 6,965 feet. The hole is bottomed in sand showing oil in the lower Cockfield section at 6,973 feet. Same company's No. 5 Brooks swabbed salt water at a plugged back depth of 6,965 feet and it will probably be plugged back and completed in the upper section around 6,800 feet.

In the Bay City field, Matagorda County, Hamman Exploration Co. No. 1 J. H. Crocker, 2,400 feet south of the discovery well perforated casing with 12 holes at 8,938-41½ feet and tested dry on a drill stem test. Another test made through perforations at 8,942-47½ feet showed 17 stands of mud and 69 stands of salt water and the well is shut down after the perforations were squeezed off with cement. Southeast of the Van Vleck field, Mayo and others No. 1 E. L. Calhoun has been abandoned in salt water sand at 8,006 feet.

Two completions were reported for the Nome field, Sun Oil Co. No. 3 Long flowed 341 bbls. of pipe-line oil on a 24-hour potential test through a quarter-inch choke. The hole is bottomed at 6,056 feet with 7-inch casing cemented at 6,006 feet. Shell Petroleum Corp. No. 3 Carpenter bottomed at 6,055 feet, flowed 514 bbls. per day through a quarter-inch choke with tubing pressure 925 pounds and casing pressure 600 pounds. Location is in the J. W. Kirby Survey. Sun Oil Co.

(Continued on Page 93)

Kansas Developments

BLOOMER POOL IS EXTENDED; SEVERAL WILDCATS STARTED

By DAL DALRYMPLE

The Bloomer pool of Barton County was extended one-half mile south, the farthest north producer in Kansas was completed in Rooks County, a second producing horizon was uncovered in the Walters pool of Ellis County, and many new wildcat tests were started in the Sunflower State the past week. Completions of the week in Kansas included 34 oil wells, one gas well and 10 dry holes.

Magnolia Petroleum Co. extended the fast growing Bloomer pool one-half mile south at No. 1 Mueller, NW NW NE section 1-18-11w, with a 318-bbl. well.

The second well in the Faubin pool, northern Rooks County, was completed at El Dorado Refining Co. No. 1 Southard, SW SW SE section 1-6-18w. It is in the area opened last year by Gillespie & Sons, and is the farthest north producing well in the state, being 31 miles south of the Nebraska line. It pumped 492 bbls. of oil in 24 hours after acidizing Lansing lime, topped at 3,045 feet. The discovery and only other well in the pool had a potential 233 bbls. of oil February 1.

Gulf Oil Corp. No. 2 Walters, section 2-12-18w, second well in the Walters pool, Ellis County, swabbed 439 bbls. of oil naturally in 14 hours from 3,619 feet in Siliceous lime, but was not completed. The discovery well, offsetting the new producer, found pay in Topeka lime and on February 1 had a potential of 1,048 bbls. of oil. The No. 2 Walters found only water in the Topeka, so it was deepened to the Siliceous.

Completions of the week included big wells in the Bemis pool, Ellis County; the Silica pool, Rice and Barton counties; the Warkentine pool, Harvey County; the Trapp pool, Russell County, and the Bartlesville sand pool opener in Cowley County.

Wildcat operations continue to spread over a wide area in western Kansas. Three interesting new tests recently were started in southern Rice County, one immediately west of the Hauschild-Saxman area and two others farther west, but in the general area south of Sterling.

Numerous Wildcats

Ten new wildcat tests were started in Kansas the past week. First reports of the new wildcats follow:

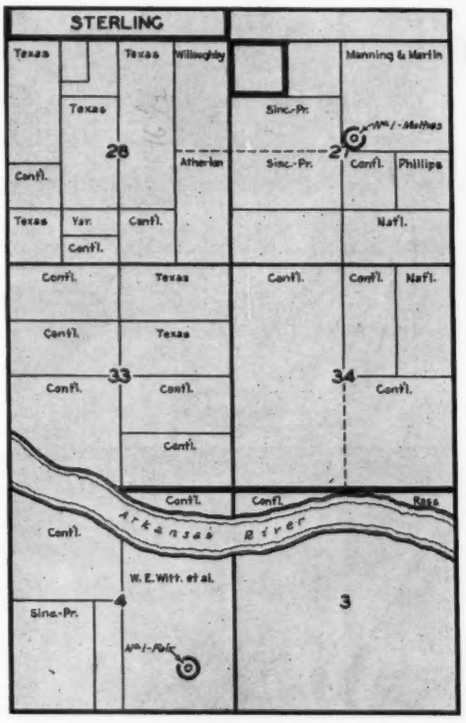
Ralph Wixson and Union Oil & Gas Co. No. 1 Frederick, NW cor. section 12-16-13w, in northern Barton County and south of the Sellens pool in Russell County, a cellar; Pierson and others No. 1 Hart, SW SW NE section 9-20-13w, south of Great Bend, Barton County, a location; Noble Petroleum Corp. No. 1 O'Laughlin, NW NW SE section 13-12-19w, northwest of Hays, Ellis County, moving in material; Earl Wakefield No. 1 Putnam Mortgage Co., SE SE NW section 32-15-17w, west of Pfeifer, southern Ellis County, location.

L. H. Wentz & Amerada Petroleum Corp. No. 1 Rush, NW SW SW section 36-34-6, northwest of Falls City pool and east of Maple City, Cowley County, a rig; W. M. McKnabb No. 1 Community, C NE NW section 14-34-3e, northwest of Arkansas City, Cowley County, an old well being deepened, fishing at 2,886 feet; J. E. Trigg and Vernon Oil & Gas Co. No. 1 Andrea, SE cor. section 4-23-12w, northwest of the Richardson pool, Stafford County, a cellar; Wamhoff and others No. 1 Nuse, SE NE SW section 18-18-4w, southwest of Fremont, McPherson County, moving in material; Carter Oil Co. and others No. 1 Seibert Estate, west of Shook, southwest Harper County, a location; Keith & Olson Drilling Co. No. 1 Ely, NW NW SW section 34-22-29w, southeast of Eminence, Finney County, rigging up rotary.

Rice County

The largest of 10 wells completed in Rice County was Stanolind Oil & Gas Co. No. 11 Specht, SW SW NE section 6-20-10w, Silica field. It topped anhydrite at 485 feet; Siliceous lime, 3,307 feet; total depth, 3,323 feet; treated with 2,000 gallons of acid and made potential of 1,996 bbls. of oil in 21½ hours.

Other Silica completions were: Gulf Oil Corp. No. 7 Stoltz Jr., NE NW NW section 5-20-10w; topped Siliceous lime, 3,298 feet; total depth, 3,318 feet; acidized with 1,000 gallons; potential, 1,594 bbls. of oil. J. H. Tatlock No. 3 Drew, NW SW SW section 5-20-10w; Siliceous lime, 3,323-29 feet, total depth; acidized with 1,000 gallons; potential, 154 bbls. of oil, with 4 per cent water. Same operator's No. 3 Berscheit B, NW NE SW section 6-20-10w; topped Siliceous lime, 3,279 feet; total depth, 3,287 feet; potential, 1,392 bbls. of oil. Same operator's No. 4 Berscheit, NE NE SW section 6-20-10w; Siliceous lime, 3,288 feet; total depth, 3,300 feet; potential, 660 bbls. of oil. Gulf Oil Corp. No. 8 Stoltz, NE SW NW section 32-19-10w; Siliceous lime, 3,283 feet; total depth, 3,298 feet; acidized with 1,000 gallons; pumped 877 bbls. of oil in 15 hours; potential, 1,470 bbls.



Manning & Martin No. 1 Mathes, section 27-21-8w, and W. E. Witt and others No. 1 Fair, section 4-22-8w, are new wildcats in the vicinity of Sterling, in southern Rice County, west of the Hauschild-Saxman area.—(Mid-Continent Map Co., Wichita)

In the Schartz area, Mid-Continent Petroleum Corp. No. 4 Wood, SW NE NE section 4-20-10w, topped Kansas City lime at 3,000 feet; Siliceous lime, the producing horizon, at 3,321 feet; total depth, 3,331 feet. It swabbed 224 bbls. of oil in seven hours; acidized with 1,500 gallons, and made potential of 935 bbls. of oil, with 4 per cent water.

Shell Petroleum Corp. and others No. 1 Reese A, SW SW NW section 5-19-9w, Hafermann pool, was dry and abandoned at 3,850 feet, total depth. It topped Kansas City lime at 2,868 feet; Siliceous lime, 3,245 feet; sandy Dolomite, 3,725 feet; Granite Wash, 3,755 feet.

In the Hauschild-Saxman area, Cromwell & Lewis No. 1 Hannekratt, SE SE SW section 8-21-7w, flowed 249 bbls. of oil in six hours from Conglomerate at 3,347 feet; total depth, 3,373 feet. It made potential of 913 bbls. of oil. Garden-Haines Oil Co. No. 1 Snider, SE cor. section 9-21-7w, topped Conglomerate at 3,371 feet and was bottomed in top of Chat at 3,395 feet. It swabbed 15 bbls. of oil in nine hours, later pumped 15 bbls. and was completed.

Estimated Daily Production

Estimated daily average production of Kansas for the week ending February 13, and for the preceding week, was as follows:

	Barrels	
	Feb. 13	Feb. 6
Oxford City	2,725	2,650
Burrton	16,050	14,575
Ritz-Canton	5,700	6,150
Graber	2,725	3,050
Hollow-Nikkel	3,625	3,650
Voshell	3,050	2,775
Ellsworth County:		
Lorraine-South Lorraine	5,175	5,525
Other pools	1,265	1,555
Rice-Barton counties:		
Bloomer	2,125	2,550
Chase	9,275	8,300
Geneseo	2,725	1,925
Raymond	2,725	2,250
Silica	17,050	12,975
Keesling	2,050	2,400
Hauschild	3,475	2,725
Miscellaneous Rice	5,665	12,030
Miscellaneous Barton	4,925	4,470
Russell County:		
Fairport	2,370	2,425
Gorham-E. Gorham	5,505	5,445
Russell	2,580	1,695
Sullivan	1,770	2,455
Trapp	4,270	4,675
Miscellaneous Russell	4,905	5,620
Sedgwick County:		
Valley Center	1,325	1,330
Greenwich	1,335	1,305
Robbins	805	1,195
Miscellaneous Sedgwick	1,205	1,205
Ellis County	5,135	2,760
Kingman County	660	590
Stafford County	2,435	2,340
Greenwood	9,500	9,500
Butler County	17,850	17,600
Other fields	23,995	15,110
Total Kansas	175,975	165,125

New Hauschild Tests

Rice County set the pace for the state in new work, with 23 first reports. Twelve of the new operations were in the Hauschild-Saxman area; nine in the Silica district, and one each in the Chase and Hafermann pools.

First reports of the new work were as follows: L. E. Douglass Oil & Gas Co. No. 2 Theede, SW NW SW section 9-21-7w, cellar; same operator's No. 3 Theede, NW SW SW section 9-21-7w, cellar; same operator's No. 4 Theede, SW cor. section 9-21-7w, cellar; Atlantic Refining Co. and others No. 2 Hughes, SW SE SE section 6-21-7w, location; same company's No. 2 Patton B, NW NE NE section 7-21-7w, cellar; same company's No. 2 Gossman, SE NE SE section 8-21-7w, cellar; same company's No. 2 Potts, SE NE NW section 17-21-7w, building rotary rig; Cromwell & Lewis No. 1 Hughes, SE SW SE section 6-21-7w, cellar; Gulf Oil Corp. No. 1 Gossman, SW NW SE section 8-21-7w, building rotary rig; Sage and others No. 2 Gossman, NW SW NW section 9-21-7w, cellar; Reserve Development Co. No. 1 Patton, SW NW

NW section 16-21-7w, moving in material; and Aylward and others No. 3 M. A. Johnson, SE NE NE section 17-21-7w, building rotary rig, all in Hauschild-Saxman district.

J. H. Tatlock No. 6 Drew, SE NW SW section 5-20-10w, cellar; same operator's No. 5 Berscheit A, SW SE SW section 6-20-10w, cellar; same operator's No. 6 Berscheit A, NE SE SW section 6-20-10w, cellar; his No. 7 Berscheit B, SE NE SW section 6-20-10w, cellar; same operator's No. 8 Berscheit B, SW NE SW section 6-20-10w, cellar; Gulf Oil Corp. No. 4 Steckel, NE SE NE section 31-19-10w, rigging up rotary; same company's No. 11 Stoltz, SW NW NW section 32-19-10w, building rotary rig; same company's No. 11 Stoltz, Jr., NW SE NW section 5-20-10w, rotary rig; same company's No. 12 Stoltz, Jr., SW NE NW section 5-20-10w, building rotary rig, and in the Silica field; Ohio Oil Co. No. 9 Proffitt, NE NE NW section 5-20-9w, Chase area, cellar; Shell Petroleum Corp. and others No. 4 Hafermann, NW NW SE section 6-19-9w, Hafermann pool, rigging up.

Barton County

Four of the nine Barton County completions were in the Bloomer pool. Republic Natural Gas Co. No. 4 McLean, SW NE SE section 25-17-11w, Bloomer area, had Siliceous lime at 3,286 feet; total depth, 3,310 feet, and made potential of 1,934 bbls. of oil. Texas Co. No. 4 Moran, NE NE SW section 25-17-11w, topped Siliceous lime at 3,277 feet, was bottomed at 3,300 feet, swabbed 300 bbls. of oil in 10 hours; acidized with 2,000 gallons and made potential of 1,349 bbls. of oil. Yarnell & Carlson and others No. 2 Gemeinhardt, NW NE SW section 26-17-11w, made potential of 914 bbls. of oil after acidizing with 1,000 gallons. It topped anhydrite at 593 feet; Kansas City lime, 2,980 feet; Conglomerate, 3,275 feet; Siliceous lime, 3,280 feet; and had pay at 3,311-16 feet, total depth. Magnolia Petroleum Co. No. 1 Mueller, NW NW NE section 1-18-11w, topped Kansas City lime at 2,980 feet; Siliceous lime, 3,276 feet; total depth, 3,291 feet. It was acidized with 1,000 gallons, and pumped 110 bbls. of oil in 10 hours; acidized again with 1,000 gallons and pumped 134 bbls. of oil in 16 hours.

Empire Oil & Refining Co. No. 1 Wittig, NE NE NW section 16-16-13w, in the Deutsch pool, made potential of 913 bbls. of oil, with 1 per cent water, in 23 hours after acidizing with 2,000 gallons. It topped Siliceous lime at 3,390 feet and was bottomed at 3,399 feet.

Sinclair Prairie Oil Co. No. 1 Feltes, SE cor. section 8-16-12w, Beaver pool, topped anhydrite at 800 feet; Kansas City lime, 3,025 feet; LaMotte sand, 3,297 feet; Granite, 3,374-80 feet, total depth, and was dry and abandoned.

Earl Wakefield No. 1 Bierthaler, SE cor. section 26-18-11w, Straub area, topped Kansas City lime at 2,982 feet; Conglomerate, 3,298 feet, had Siliceous lime at 3,384-88 feet, and was dry and abandoned.

In the Silica pool, Gulf Oil Corp. No. 8 Steckel, SE SE NE section 1-20-11w, topped Siliceous lime at 3,259 feet, was bottomed at 3,272 feet, plugged back to 3,268 feet, acidized with 1,000 gallons and made potential of 1,069 bbls. of oil, with 100 bbls. of water. Lario Oil & Refining Co. and Indian Territory Illuminating Oil Co. No. 4 Meyer A, SE SE SW section 13-20-11w, Peter pool, made potential of 1,916 bbls. of oil, from Siliceous lime at 3,261 feet; total depth, 3,271 feet.

New work in Barton County was as follows: Empire Oil & Refining Co. No. 1 Meier, SE SE SW section 9-16-13w, Deutsch pool, moving in material; Texas Co. No. 5 Moran, SW SE SW section 25-17-11w, Bloomer field, location; same company's No. 6 Bloomer, SE NE NE section 36-17-11w, location; same company's No. 7 Bloomer, NW NE NE section 36-17-11w, location; Yarnell & Carlson and others No. 3 Gemeinhardt, SE SE SW section 36-17-11w, building rig.

Russell County

Seven producing wells and one dry hole were completed in Russell County. Coralena Oil Co. No. 11 Trapp, SE NW SE section 30-15-13w, Trapp pool, had Siliceous lime at 3,249-53 feet, total depth, was acidized with 2,000 gallons and made potential of 2,475 bbls. of oil. W. I. Southern, Inc. No. 2 Boomhower, NE SE NW section 30-15-13w, made potential of 2,337 bbls. of oil after acidizing with 4,000 gallons. Production was from Siliceous lime at 3,321-27 feet, total depth. Same operator's No. 1 Maharg, NE cor. section 18-15-13w, Coralena pool, topped Kansas City lime at 2,960 feet; had pay at 2,985 feet; total depth, 2,990 feet. It was acidized with 5,000 gallons and made potential of 776 bbls. of oil.

In the Hall pool, Smoky Hill Oil Corp. No. 8 Miller, SW cor. section 30-14-13w, made potential of 1,296 bbls. of oil after treating with 8,000 gallons of acid. Top of Kansas City lime was 2,848 feet; pay, 2,881 feet; total depth, 2,900 feet. Same operator's No. 5 Miller, SW NW NE section 31-14-13w, topped Kansas City lime at 2,850 feet; was bottomed at 2,880 feet; acidized with 5,000 gallons and made potential of 1,240 bbls. of oil.

Central Petroleum Co. No. 3 Foster B, SW SE NE section 3-14-15w, Gorham-Sullivan area, topped Kansas City lime at 3,043 feet; had pay at 3,067-74 feet; total depth, 3,079 feet. It was treated with 4,000 gallons of acid and made potential of 1,136 bbls. of oil. Transwestern Oil Co. No. 2 Polcyn B, NE NW SE section 10-14-15w, had Gorham sand at 3,265 feet, and at 3,270 feet it made potential of 580 bbls. of oil. It was deepened to 3,272½ feet and shot, but production was not increased. Aylward No. 1 Peterson, NW SW NW section 12-14-15w, topped anhydrite at 904 feet; Kansas City lime, 3,045 feet; had Siliceous lime at 3,300-23 feet, and was dry and abandoned.

New work in Russell County: Hays & Sackrider and others No. 1 Boxberger, SW SW SE section 26-14-14w, South Gurney area, a cellar; Empire Oil & Refining Co. No. 3 Sellens, SE NW SW section 30-15-13w, Trapp field, rotary rig; Phillips Petroleum Co. No. 4 Hoffman, NW NW SE section 31-15-13w, rigging up rotary.

Ellis County

The prolific Bemis pool of Ellis County yielded two more good producers, while a smaller well was completed in the Catherine pool.

Empire Oil & Refining Co. No. 3 Bemis, NE SE SE section 21-11-17w, made potential of 2,117 bbls. of oil at total depth of 3,427 feet. Top of anhydrite was 1,114 feet; Siliceous lime, the producing horizon, at 3,399 feet. British American Oil Producing Co. No. 3 Bemis, NW SW SW section 22-11-17w, topped Siliceous lime at 3,420 feet, was bottomed at 3,426 feet and made potential of 2,309 bbls. of oil.

Gulf Oil Corp. No. 1 Messick, SW SW SE section 3-13-17w, Catherine pool, topped Kansas City lime at 3,271 feet, and was bottomed at 3,428 feet. It pumped 241 bbls. of oil and 10 bbls. of water in 21 hours. After acidizing with 5,000 gallons it made potential of 432 bbls. of oil, with 31 bbls. of water.

Four new operations were reported in Ellis

Plan 1938 International Petroleum Exposition

Visioning a larger show with new permanent buildings built by exhibitors and a broader scope of exhibits to include allied industries, the board of directors of the International Petroleum Exposition last week reelected officers and instructed them to proceed with promotion plans for the May 14 to 21, 1938, exposition.

President W. G. Skelly, General Manager W. B. Way and Treasurer Clyde Pape reported on a successful 1936 exposition. Mr. Skelly said the exposition planned to bring in exhibits from allied industries, such as the automotive group and enlarge the scientific and technical displays.

"At the 1936 exposition many exhibitors built their own permanent buildings on the grounds and we expect to see more of them doing this for the 1938 show."

A sell-out of exhibit space, with the possibility of new buildings being needed to fill the demand in 1938, was seen in the report of Manager Way that he has on hand reservations amounting to approximately two-thirds of that now available. No space solicitation has yet been made and no contracts sent out, he said, adding that many of those requesting space had asked for additional booths or outside footage.

Improvements will be made to the plant, now situated on a 20-acre site, 15 acres of which are used for exhibit space. The directors approved keeping the space rate the same as in 1936 despite the upward trend in prices. The rate has been cut twice since 1930.

Officers and executive committee: Frank Hinderliter, president, Hinderliter Tool Co., vice president; W. G. Skelly, president, Skelly Oil Co., president; Alf G. Heggem, president, Oil Well Improvements Co., vice president; W. M. Bovaird, secretary-treasurer, Oklahoma Iron Works, member of executive committee.

Top row: Clyde Pape, secretary-treasurer, Selby Oil & Gas Co., treasurer; H. R. Powers, oil industries committee manager of the Chamber of Commerce of Tulsa, secretary; W. B. Way, general manager. O. T. Dawson, vice president, National Supply Co., midwest, is also member of the executive committee.

County, in addition to the new wildcats. Texas Co. No. 1 Bemis B, SW SW NW section 15-11-17w, Bemis area, was moving in material; same company's No. 1 Bemis A, NE cor. section 28-11-17w, also was moving in material. Deep Rock Oil Corp. No. 1 Baumer, NW cor. section 27-11-17w, was a location. Texas Co. No. 1 J. C. Ruder, NE NE SW section 17-15-18w, Ruder sector, was moving in material.

Harvey County

The week's completions included two producers in the Warkentine pool, Harvey County. Western Kansas Oil & Refining Co. and others No. 2 Denno, C SW SW section 12-23-2w, topped Chat at 2,963 feet, was bottomed at 2,982 feet, flowed 675 bbls. of oil in six hours and made potential of 2,558 bbls. Same operator's No. 1 Kellar, C E half SE SE section 35-22-2w, topped Chat at 2,967 feet; total depth, 2,997 feet; flowed 125 bbls. of oil in six hours, and made potential of 474 bbls. of oil, with 8,000,000 feet of gas.

Empire Oil & Refining Co. No. 2 Talbott A, C E half SW NW section 1-23-2w, was an abandoned location.

Reno County

Four wells were completed in Reno County. Wilcox Oil & Gas Co. No. 2 Neufeldt A, SW SE NW section 12-23-4w, Burrton field, topped Chat at 3,265 feet, was bottomed at 3,440 feet and made potential of 780 bbls. of oil. Yingling and others No. 1 River Bed, SE SW NW section 20-24-4w, topped Chat at 3,332 feet; total depth, 3,395 feet; pumped 40 bbls. of oil and 4 bbls. of water in four hours; acidized with 1,000 gallons, and made potential of 268 bbls. of oil, with 250 bbls. of water.

Barnsdall Oil Co. No. 1 Westfall, SW SW SE section 19-24-4w, Haven area, topped Chat at 3,337 feet and was bottomed at 3,382 feet. It flowed 490 bbls. of oil in 24 hours; acidized with 1,500 gallons; flowed 903 bbls. of oil in 13 hours, and made potential of 1,311 bbls. of oil, with 3 per cent water.

Helmerich & Payne No. 1 Stewart, SE SE NE section 16-24-6w, wildcat, topped Kansas City lime at 2,925 feet; Chat, 3,675 feet; Viola lime, 4,062 feet; Simpson, 4,131 feet; Siliceous lime, 4,197 feet; total depth, 4,245 feet, and was dry and abandoned.

First reports of new work in Reno County follow: National Petroleum Co. No. 1 Tucker, SE SE NE section 19-24-4w, location; Shaffer and others No. 3 Tucker, SW SW NW section 20-24-4w, location; Shaffer and others No. 4 Tucker, NW NW SW section 20-24-4w, all on the Burrton field; Shell Petroleum Corp. No. 1 Mauck, C W half W half NE section 14-26-9w, an old dry hole being deepened, drilling at 4,349 feet, and Ohio Oil Co. No. 3 Lawson, NW NE NW section 15-26-9w, cellar, both in the Lerado field.

Stafford County

Stanolind Oil & Gas Co. was rigging up rotary at No. 5 Komarek, SE cor. section 30-22-11w, new test in the Richardson area, Stafford County.

Ellsworth County

Two new operations were reported in Ellsworth County. Carter Oil Co. and others No. 3 Elizabeth, C N half N half NE section 34-17-9w, Lorraine field, was a location. Continental Oil Co. and Empire Oil & Refining Co. No. 2 Rolfs, SE SE NW section 34-17-8w, Edwards pool, had dug cellar.

Cowley County

Sinclair Prairie Oil Co. No. 12 Detmer, C E half NW SW section 24-32-4, Winfield area, Cowley County, had sand at 2,949 feet; lime, 3,025 feet; total depth, 3,032 feet; plugged back to 3,025 feet; shot and pumped 25 bbls. of oil in 24 hours.

McKnabb No. 1 Charles, NE NE SE section 20-32-5, wildcat, opened a new Bartlesville sand producing area and was completed. It topped Bartlesville sand at 3,075 feet; had pay at 3,088-90 feet, and was bottomed at 3,098 feet. It flowed 136 bbls. of oil in six hours; flowed by heads and swabbed some water. It was plugged back to 3,096 feet, and swabbed 360 bbls. of oil in 24 hours, with 20 to 25 bbls. of water an hour. It was completed, pumping 147 bbls. of oil and 147 bbls. of water in 24 hours.

Simpson Oil Co. and Stanolind Oil & Gas Co. No. 1 Weigle, SW SW NE section 18-31-6, wildcat, had lime at 2,922 feet, was bottomed at 2,995 feet, and was dry and abandoned.

Aylward No. 1 Rising, SW cor. section 6-32-6, wildcat, had a showing of oil at 2,278 feet; topped Bartlesville sand at 2,952 feet; Mississippi lime at 3,074 feet, and was dry and abandoned at 3,081 feet, total depth.

Lewis Production Co. had a fishing job at 1,660 feet in No. 1 Sitton C, NE SW NE section 30-31-6, Burden area, Cowley County. Ten-inch casing was set at 1,475 feet.

Butler County

T. C. Johnson No. 3 Beedles-Swenson, NE SW NE section 8-27-6, Butler County, had a hole full of water at 3,200-04 feet, total depth, and was dry and abandoned. It topped Kansas City lime at 2,320 feet; lime, 2,745 feet; Viola lime, 3,142 feet; Wilcox sand, 3,195 feet.

Andrew Ellison No. 1-A Shreve, NW SW SE section 11-28-4, Augusta field, topped Kansas City lime at 2,087 feet; total depth, 2,136 feet; acidized with 2,000 gallons and pumped 40 bbls. of oil in 24 hours.

Roth & Faurot were rigging up machine for No. 1-A Harris, NE SW SE section 14-27-7, a new test in the Keighley pool, Butler County. Another new Butler County operation was Polhamus No. 5 Semisch, SW SW NE section 5-28-7, moving in material.

Coffey County

The only completion in Coffey County was at Selby Oil & Gas Co. No. 3 Scott, NE NW NW section 13-23-14. It topped lime at 1,589 feet and was dry and abandoned at 1,643 feet, total depth.

Woodson County

Higgins and others No. 1 Harding, C S half SW SE section 29-23-15, Woodson County, was dry and abandoned at 1,646 feet, total depth. It topped lime at 1,556 feet.

C. L. Sheedy and others No. 4 Lee, SW SE NE

(Continued on Page 95)

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North Louisiana, Arkansas

LODI TEST SHARES INTEREST WITH NEW JEFFERSON WELL

By MITCHELL TUCKER

SHREVEPORT, La., Feb. 15.—Announcements of new wildcat locations on important blocks throughout the Ark-La-Tex territory featured developments last week, while all immediate attention was centered upon the testing of the Lodi structure about 7 miles southwest of Rodessa outpost production, and the completion of the discovery well 7 miles farther to the southwest, just north of the town of Jefferson, Marion County, Texas.

Marion County, Texas

After the Holcomb, Thomason, Flesh & Hootkins No. 1 Lizzie Henderson, Upper Bennington Survey, definitely gave proof of a huge productive structure to the north of Jefferson, the Arkansas-Louisiana Gas Co.'s Lodi test about midway between Jefferson and southwest Rodessa production is being very closely watched. This test is known as their No. 1 W. S. Ford, Charles Grayson Survey, and after topping the massive anhydrite at 5,588 feet (elevation 332 feet) they are now slowly coring ahead below 6,150 feet. Actual findings near this point have not been officially announced, but it is rumored that the Hill and possibly the Gloyd has been penetrated, and some saturation encountered. Some informed geologists expect a separate structure here between Rodessa and Jefferson against another echelon fault, and should Lodi prove productive many thousand acres would be thrown open for rather rapid development.

Preparations are being made by Holcomb & Thomason and others to kill their Jefferson discovery well No. 1 Henderson, pull tubing and perforate casing with additional shots at the present level and also about 5 feet higher in order to permit entrance of more gas into the hole with the hope of increasing the well's natural flow.

On production tests after erection of tankage the well flowed 150 bbls. in 15 hours by heads through 12/64-inch bottom-hole choke, and 112 bbls. in 15 hours through 10/64-inch choke set at 5,345 feet. A 14/64-inch choke was then set on bottom and the well began natural flow at the rate of 42 bbls. hourly.

Is is thought that the manner in which this well was drilled some 400 feet below the present producing level, cased and cemented, then perforated, has prevented it from being as large a producer as might otherwise have been expected.

Preparations are being made to begin the drilling of a test on a 40-acre tract in the SE cor. of the Susie Chatten 164-acre lease in the southeastern part of the A. De Los Santos Coy Survey before February 28 in order not to forfeit the lease.

The Texas Railroad Commission has delayed hearing for permission to drill eight wells on townsite lots in Jefferson, and also upon application of the Jefferson Northwestern Railroad to drill along its right of way west of the discovery producer. Protests are being made to these applications for permits under Rule 37, and important early decision from the commission may be expected on well spacing in the Jefferson field.

Bienville Parish

Seaboard Oil Co.'s No. 1 McGee, NE section 3-16-6, is drilling plug on 7-inch casing set at 7,535 feet, and preparing to drill deeper toward the Lower Marine section of the Travis Peak. Should this section prove nonproductive, hole will be plugged back and several attractive showings logged higher will be tested by perforating casing.

Lide & Greer No. 1 Smelley, SE SW NE section 13-16-5, exploratory test of the Bienville-Lincoln gas area, is now drilling ahead at about 7,000 feet in black shale. Contract depth here is 7,300 feet.

Estimated Daily Production

Estimated daily gross production all companies week ending February 12:

NORTH LOUISIANA

	Bbls.
Bellevue	755
Caddo light	3,815
Caddo heavy	2,465
Converse	865
Cotton Valley heavy	265
Cotton Valley light	540
DeSoto and Red River	1,385
Elm Grove	320
Haynesville	2,900
Holly	120
Homer	2,580
Pleasant Hill	120
Rodessa	48,870
Sarepta-Carterville	385
Sligo	310
Urania	2,720
Zwolle	755
Total	69,270

SOUTH ARKANSAS

Champagnolle	1,770
El Dorado	2,020
Lisbon	285
Miller County	590
Nevada	725
Smackover light	2,100
Smackover heavy	16,700
Stephens	600
Troy	50
Urbana	1,550
Total	26,390

Texas side of Rodessa field—38,980 bbls. daily.

Rodessa Completions

Magnolia Petroleum Co. No. 7 Foscue, NE section 20-23-16, Caddo Parish, flowed 8 bbls. hourly through three-sixteenths inch tubing choke on initial test, total depth 6,003 feet.

American Liberty No. A-6 Baugus, J. H. Rives Survey, Cass County, flowed 337 bbls. in 24 hours from saturation 6,013-26 feet, total depth 6,051 feet, plugged back to 6,029 feet.

Gulf Production Co. No. 3 Dawson, J. H. Rives Survey, flowed 19 bbls. hourly through one-quarter inch tubing choke, total depth 6,009 feet.

Magnolia Petroleum Co. No. 4 Noel Estate, W. B. Hughes Survey, flowed 14 bbls. per hour through three-sixteenths inch tubing choke, total depth 6,065 feet.

Magnolia Petroleum Co. No. 5 Rives, John Collom Survey, is situated high on structure and was completed as a gas well, gauging 4,350,000 feet daily, total depth 5,979 feet.

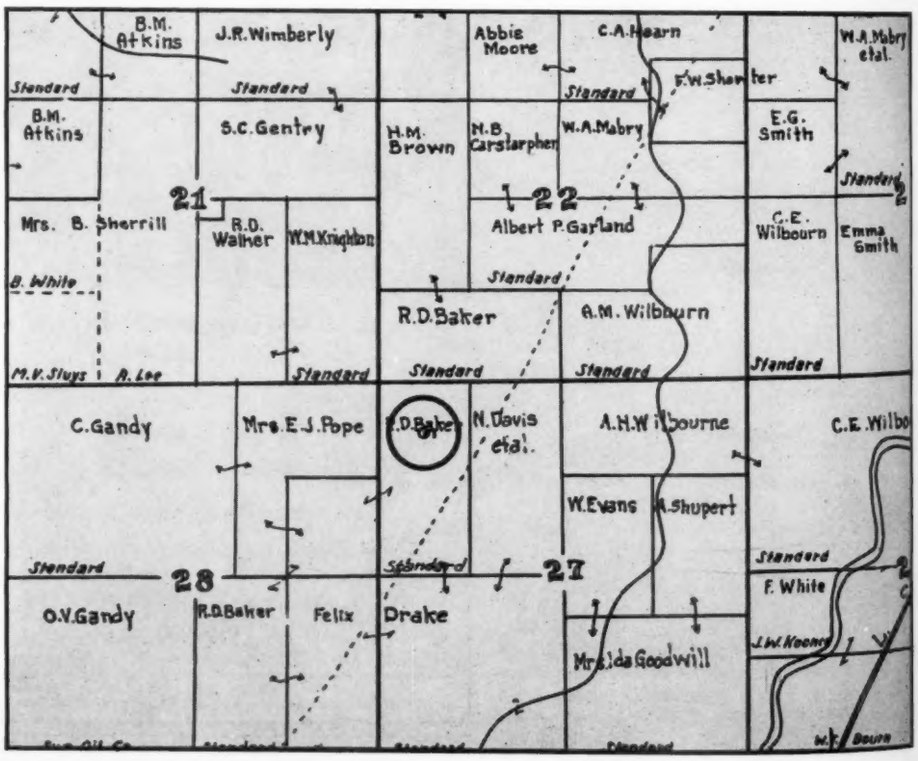
Ohio Oil Co. No. 12 R. P. Willis, SFIW No. 1,263 Survey, also situated high on structure to the south, was completed as a gasser gauging 15,000,000 feet, total depth 5,924 feet.

Phillips Petroleum Co. No. 3 Farrier, Wm. R. Myers Survey, flowed 489 bbls. daily on initial test, gas-oil ratio 508 to 1, total depth 6,118, plugged back to 6,092 feet.

Phillips Petroleum Co. No. 1 Skinner, SFIW No. 1,025 Survey, flowed 19 bbls. per hour initially, tubing pressure 600 pounds, casing pressure 900 pounds, total depth 6,122 feet, plugged back to 6,100 feet.

Texas Co. No. 1 D. Lewis, Alex Archer Survey, flowed 960 bbls. in 24 hours through one-quarter inch tubing choke, total depth 6,082 feet.

United Production Co. No. 5 G. W. Bibby Unit



Standard Oil Co. of Louisiana No. 1 R. D. Baker, NW NW section 27-19-7w, Lower Glen Rose test in the southern portion of Claiborne Parish, Louisiana, on a highly regarded Athens block.
—(Globe Map Co., Shreveport)

flowed 21 bbls. per hour on initial test, one-quarter inch tubing choke, total depth 6,050 feet.

United Production Co. No. 9 Rambo Unit, J. Davenport Survey, flowed 8 bbls. per hour through three-eighths inch tubing choke, total depth 6,012 feet.

United Production Co. No. 10 Rambo, same survey, flowed 14 bbls. hourly through one-quarter inch tubing choke, total depth 5,985 feet.

Bossier Parish

Operators of the Sligo field met in New Orleans on February 12 for the first public hearing on that field after oil was discovered recently on its southwestern flank. Recommendations were offered for the formulation of rules and regulations for development there, which were in the main harmonious. Commissioner of Conservation William G. Rankin announced at the close of the hearing that an order covering the field would probably be promulgated within the next 10 days, after suggestions of the operators have been given full consideration.

Arkansas-Louisiana Gas Co. No. 1 W. H. Davis, oil test on northeastern flank of Sligo gas field, found only gas in the Pettitt sand topped at 5,156 feet, and after drilling and coring on to 5,222 feet salt water was encountered. Hole has been plugged back to 5,100 feet and operators plan to perforate and complete as a gas well in the former Sligo gas horizon, Lower Glen Rose.

Triangle Drilling Co. No. 1-I Skallan, NE section 22-17-12, tested 20,000,000 feet of gas through one-quarter inch tubing choke, with small showing of oil, tubing pressure 1,400 pounds, casing pressure 1,700 pounds, in the Pettitt sand topped at 5,130 feet, where normally oil production was expected. This well is due north of United's second oil producer on the southwestern flank of Sligo. Operators are pulling liner and preparing to do further work on the hole in an effort to increase oil production.

Two locations north of their second oil producer, United Gas tested salt water only in the Pettitt sand at their No. 1 H. G. Freeman, SE section 15-17-12. The well has been treated with 1,000 gallons, and is now standing for chemical reaction.

Disappointing results from these three tests are serving to quickly define the producing limits at Sligo.

Caddo Parish

Gulf Refining Co. No. 1 E. P. Hatcher, SW SE section 11-17-15, Cross Lake test near Shreveport, is now coring carefully below 8,657 feet in the Lower Marine series of Travis Peak. This is the deepest test ever drilled in northwestern Louisiana, and will add much to the geological knowledge of that section.

Matt M. Press No. 1 Keller, SE section 10-20-15, was completed in the Caddo field, pumping 50 bbls. daily on initial test, total depth 2,255 feet.

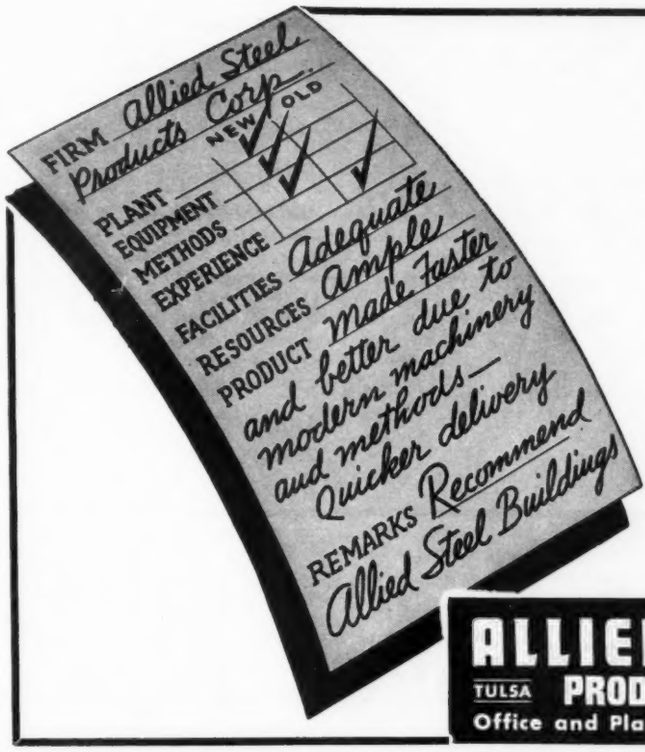
Claiborne Parish

Standard Oil Co. of Louisiana has announced location for a deep test of its highly regarded Athens block in the southern portion of Claiborne Parish and about 6 miles north of the Gibsland gas area. The test will be known as No. 1 Baker, 660 feet south and east of the NW cor. section 27-19-7w, approximately in the center of Standard's 7,000-acre block.

The newly discovered Lisbon field was given three new locations during the week, which will quickly indicate productive extent of this promising structure. Ray Oden is rigging up in section 36-20-5; Lisbon Oil is preparing to move in materials in NE SE NE of section 3-20-5w, Lyons & Neely have made location in NE NW SW section 36-21-5w, and Red Iron Drilling Co. are making preparations to drill in C of S half SW NE section 36-21-5w. Granting of permits on 10-acre tracts indicates that the Louisiana Commission will not require 40-acre spacing as imposed at Cotton Valley. E. T. Oakes and others' discovery well here continues to flow about 200 bbls. daily, and is holding up in a satisfactory manner.

Max Hirsch and others No. 1 C. O. Ferguson, SW section 29-22-6w, north of the Lisbon field, made drill-stem test last week from 5,340-95 feet and found 25 joints of salt water. Drilling is progressing below 5,500 feet.

United Gas and others No. 1 R. Simms, NW



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section 32-20-5w, appears as a half-mile northern extension of the Sugar Creek gas field after topping Travis Peak at 5,542 feet and logging about 25,000,000 feet of gas on drill-stem test 5,450-5,714 feet. The 7-inch casing has been set at 5,457 feet, and liner is being run preparatory to testing.

De Soto Parish

Vaughn Production Co. No. 1 Sample, SW NE SE section 24-11-14, wildcat south of the Spider area in De Soto Parish, is now shut down at 5,930 feet waiting for orders. Hole is in bad mechanical condition.

Grant Parish

Grant Oil Co. No. 1 Holmes, SW NE SW section 17-9-1e, pumped salt water only on southwestern extension area of Urania field, and has been abandoned at depth of 1,609 feet.

Morehouse-Ouachita

Three routine completions were made in the Monroe gas field during the week, gauging 4,000,000 feet, 3,000,000 feet and 2,500,000 feet, with rock pressures of 970, 700 and 610 pounds, respectively, all in the Monroe gas rock.

Red River Parish

Gulf Refining Co. completed its No. 25 Kennedy, NW section 24-13-11, in the De Soto-Bull Bayou area, pumping 30 bbls. daily on initial test, total depth 2,550 feet.

Sabine Parish

Two locations were staked for deep exploratory testing of the Lower Glen Rose section at Converse field, which was indicated highly productive in Cox & Whitehurst's No. 1 Whitney Corp. before it was completed at a higher level due to mechanical troubles. Kirk-Green-Way will make test in NW NE of section 8-9-13 and Power Oil Co. in NE of section 31-9-13.

ARKANSAS

Clark County

Location has been made 7 miles northeast of Prescott, Ark., for drilling of McLarry & Carlis No. 1 J. G. Clark, NE cor. section 22-10s-21w. Geological work on the extensive block upon which this well is located was done by H. D. Easton of Shreveport, and a Paleozoic test is planned.

Hempstead County

Root Petroleum Co. No. 1 D. F. Jones, NE SW NE section 16-13-23, deep test of important block mapped by seismograph, cored sand at 4,029-35 feet and reported showings of oil. Coring is progressing below 4,060 feet.

Miller County

River Leevy Oil Co. No. 1 Dean, NW SE section 24-15-26, offsetting the recent discovery well in the Texarkana field, perforated casing at 3,920-73 feet and found only salt water. The hole has been abandoned, former total depth 4,500 feet, plugged back to 3,975 feet.

Lafayette County

E. L. Buford of Dallas is preparing to drill a deep test in section 36-19-25 on the Long Prairie block received on farm-out basis from Phillips Petroleum Co.

Nevada County

Alec Larson No. 1 Wortham, SW SW NW section 29-13-21, north of the Irma field, was drilled for a test of the basal Upper Cretaceous formations productive at Troy, but topped the red beds at 2,167 feet, and hole has been temporarily abandoned at 2,340 feet.

Ouachita County

Phillips Petroleum Co. No. 1 W. Rose, SW NE SE section 27-15-15, formerly temporarily abandoned, was deepened to total depth of 4,961 feet, 7-inch cemented at 4,957 feet, and perforated for testing and completing. At 4,852-60 feet only salt water was logged. The hole was plugged back and perforated at 4,824-44 feet with 49 shots, and was completed in the Permian lime section, flowing 2,000,000 feet of gas per day and 20 bbls. oil hourly through one-half inch tubing choke, casing pressure 1,000 pounds, tubing pressure 950 pounds.

Union County

Lion Oil Refining Co. has taken over Phillips Petroleum Co.'s abandoned No. 1 Morgan, S half section 18-18-17, and plans to deepen the well to 7,000 feet or more from its present depth of 4,270 feet. Materials are now being moved to location.

EAST TEXAS (Border Counties)

Harrison County

Three new tests are being made of the Tokio oil producing section of Waskom gas field of southeastern Harrison County, where a 1-mile southwest extension well was recently completed. Patsom Petroleum Co. No. 2 Douglas, S. Fields Survey, a south offset to No. 1 Douglas, which extended the pay zone, is rigging up. C. M. Bagley No. 1 Trosper, Davenport Survey, and Geyer Oil Co. No. 2-B Vincent, Davenport Survey, are the other locations.

Panola County

Motex Oil Co. began testing No. 1 J. M. Furrh, Alstone Survey, on the northern flank of the Bethany gas field. Salt water, some gas and a trace of oil showed on early testing. Packer was set in effort to shut off bottom water, but packer rubbers were lost in hole, and fishing is now under way. The well was bottomed at 5,034 feet, and 7-inch casing perforated at about 5,028 feet in Lower Glen Rose.

R. H. Deering of Dallas is moving materials for a Glen Rose test at No. 1 Wooten Estate, Winnie Mann Survey, 5 miles east of Carthage, which must be spudded by March 1 to hold the 1,500-acre block upon which test is situated.

MISSISSIPPI

Lamar County

Considerable attention has been given the findings of Sun Oil Co. and others No. 1 Scanlon, section 28-4-15, southeastern Mississippi test between Hattiesburg and Columbia, which discovered salt and anhydrite for the first time in that area. These minerals are often associated with

(Continued on Page 93)

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West and North Texas

By L. E. BREDBERG

LEA COUNTY PROSPECT BOON TO ANDREWS-GAINES SECTOR

FORT WORTH, Tex., Feb. 15.—Wildcatting in western Andrews and Gaines counties, especially in the northwestern part of the former and southwestern part of the latter county, may be reflected from a test drilling across the state line in New Mexico, which is showing for a producer. This wildcat is J. W. Brown and others No. 1 Parcell-Conoco in section 8-21s-38e, Lea County, close to the Texas state line. It appears sure of opening a new field in Lea County and as it is so near Andrews and Gaines counties leasing will advance in these two Texas areas, wildcat tests following, with the possibility that the producing area may straddle the state line, or new pools may be found in Gaines and Andrews as a result of this strike in the sister state.

Locations and Completions

Locations and completions both neared the half-hundred mark this week. About 45 locations and about the same number of completions are expected to be reported each week.

One of the recently opened and extended areas is the Scharbauer-Cummins area in northwestern Ector County. Nine locations were staked in this area in the past week, which presages a heavy drilling program throughout the year, as comparatively small leases will compel offset operators to drill as production and development is extended.

McCamey Extension

The old McCamey field, which has become one of the most active areas in the Permian Basin, and which has been witnessing continued extensions during the past year or more, was given another extension when R. H. Henderson and others No. 1-A M. L. Baker, on a Continental Oil Co. farm-out, in section 7, M. S. Denton Survey, pumped and flowed 737 bbls. in 24 hours from pay topped at 2,311 feet, with total depth of 2,365 feet. It had been acidized with 2,000 gallons. It proves up considerable more producing territory to this old field, extending it three-quarters of a mile southwest. This field has staged a greater come-back than any other producing area in West Texas although it was formerly thought all proven. Operators even abandoned old depleted producers. This condition was changed with the advent of acid, which rejuvenated the wells and the entire field, and brought renewed interest in the area. This interest is now paying off. Those who leased old properties on an overriding royalty basis, generally one-sixteenth, are making money.

Potential Extension

The outpost test of G. F. Getty, Inc., on the Lindley ranch (Continental Oil Co. farm-out), southwest corner of section 8, Block A-46 Andrews County, is showing for a producer and likewise an extension well to two separated areas, the Deep Rock pool 2 miles to the east and the Kuykendall well 2 miles to the southeast. Whether or not it opens a separate area, or is to be connected to one or both of the other producing areas will be proven later when tests are drilled on intervening acreage.

It struck the first oil and gas at 4,612-23 feet and bailed 15 bbls. of 31.7 gravity oil in 24 hours. It was drilled to 4,642 feet and tubing run preparatory to testing. If it does not show for a good natural commercial producer, it will be acidized or shot, or both.

Another dry hole was added to Andrews County when William Hannigan abandoned his No. 1 Logsdon, in section 5, Block A-32, in the north central part of the county. It was drilled to 5,020 feet, acidized and shot, which failed to make it come through as a producer. Elevation is 3,347 feet. This dry hole is in an area in which four other tests have been abandoned.

Gaines Outpost

The Amerada Petroleum Corp. No. 1 C. E. Robbins, in section 9, Block A-22, P.S.L. Survey, over a mile south of the first oil discovery in Gaines County, is showing for a possible producer and likewise a southern extension to the Kirk pool. The hole is now being cleaned out following a 300-quart shot from 4,800-80 feet. The well made a head when swabbed. It was drilled to a total depth of 4,940 feet, but was plugged back to 4,880 feet to shut off sulfur water and shoot.

Two Probable Tests

Two tests are rumored for Yoakum County in the near future. One of the tests is slated because of the nearness of the expiration date on leases on a block of Magnolia Petroleum Co. in the northeastern part of the county. The other rumored test is that of the Honolulu Oil Corp., which holds a large amount of acreage in the southeast corner of Yoakum County. Other companies hold large blocks in the county, but no tests have been rumored for them, as yet.

New Wildcats

The Forest Development Co., which recently abandoned one test in Fisher County, has staked location for another wildcat in the same county. It is on the J. A. Scott lands, in section 105, Block 2, H.&T.C. Survey.

The Post field is to see an outpost test drilled by S. Caprito of Big Spring. Machine is now being rigged up on location in section 1,230, Block 5, K. Aycock Survey, about 2 miles northwest of the nearest production, and toward the town of Post, which is about 3 miles distant, in Garza County.

Jones County saw the staking of several locations for wildcat tests this week, one of which was that of Hugh King, Jr., on the Harris lands, in the D. H. Stover Survey No. 7. Standard tools are being rigged up to drill this location three-quarters of a mile southwest of Nugent. The test is to go to 2,150 feet in quest of King sand production.

Fain-McGaha Oil Corp. has staked location for its third try for wildcat production in Jones County. This location is on the A. J. Swenson lands, one-half mile north and west of Lueders, in section 2, C.&M.R.R. Survey, on a block of some 1,500 acres, which is one of four blocks taken in the county by the company within the past few months.

An 1,850-foot wildcat test is to be drilled by the Lueders Development Co., headed by T. M. Smart, on the S. L. Underwood lands just south of Lueders and in the S. L. Underwood Survey.

An extreme wildcat location has been staked for Reeves County by J. C. Hill and others on the Ely lands. It is in section 38, Block 71, P.S.L. Survey, 8 miles southwest of Toyah and near the southwest corner of the county. It will seek Delaware sand production, which is found in Loving County.

Outpost for Hawley Field

N. H. Martin & Son of Wichita Falls have made location for an important outpost test about 1 mile north and a little east of production in the Hawley field, Jones County. It is on the N. H. Hayden land, in the J. E. Cockrell subdivision of the Martinez Survey, and will go to 2,400 feet.

Crockett Abandonment

The Texas Pacific Coal & Oil Co. abandoned a wildcat about 11 miles southeast of the Yates field, across the river in Crockett County. This test, drilled to 1,886 feet, was located on the Blair lands, in section 51, Block 1, I.&G.N. Survey. A slight showing of oil was logged at 1,570 feet, gas from 1,663-65 feet and a second showing of oil at 1,735 feet.

NORTH TEXAS DISTRICT

More wildcat tests are rumored with some reported for Jack County, one of the most interesting counties in the North Texas district. Tom Patton Corp. and Shell Petroleum Corp. are reported as planning a 4,600-foot test on the J. R. Williams ranch in the B.S.&F. Survey, about 12 miles southeast of Bryson, approximately 2,500 feet southeast of an old producer drilled by the Shell years ago on the Williams ranch. That well was reported to have flowed 405 bbls. per day on a five-day test at a total depth of 4,562 feet, the well still producing 17 bbls. per day, with no other tests drilled around it.

About 1½ miles south of the nearest production in the Bryson field, L. Hedrick is moving in a rig on the location in the Holderness Survey, for a 3,000-foot test.

The townsite of Bryson is now witnessing its first test, Tom Patton drilling a test on the Taylor lot, and if this test makes a producer from the Strawn series, the entire town will no doubt be drilled, as in the case of Burkburnett, Kilgore, Gladewater and other noted oil towns. Practically all town lots in Bryson are now under lease. Barney Cockburn has moved in diesel rig on the school lot to make the second test for the townsite.

PANHANDLE DISTRICT

Another test for the Kirkland area in southeastern Childress County has been reported planned with location staked in the SW quarter of section 422, Block H, W.&N.W. Survey, on a 34,000-acre block held by H. F. McMahon of Oklahoma City. This location is about 5 miles north of the Mollie Low test of the Watchorn Oil & Gas Co. which showed oil a couple of years ago around 5,600 feet, but which failed to make a commercial producer.

Hansford County Wildcat

The extreme wildcat test in northern Hansford County of the L. S. Hobbs Oil Co. on the J. P. Pearson-Hitch ranch, in section 290, Block 2, G.H. &H. Survey, increased its estimated flow of gas this week when shot with 380 quarts of nitroglycerin at 2,675-2,840 feet. It is now estimated good for 8,000,000 feet of gas per day. Total depth is 2,864 feet. The nearest gas production is about 35 miles south and southwest in Hutchinson and Moore counties.

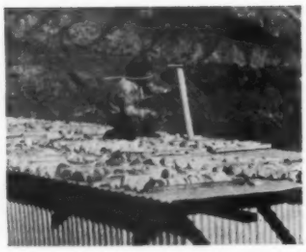
COMPLETIONS IN WEST TEXAS

Andrews County

William Hannigan No. 1 Logsdon, dry and abandoned 5,020 feet, acidized and shot, elevation 3,347 feet.

Crane County

Smith and Thomas No. 1 Dawson, dry and abandoned 2,507 feet, elevation 2,543 feet. Mann and others No. 4 Durham, 2,425-2,506 feet, 535 bbls. Mead Petroleum Co. No. 1-D Cowden, 2,420-92 feet,



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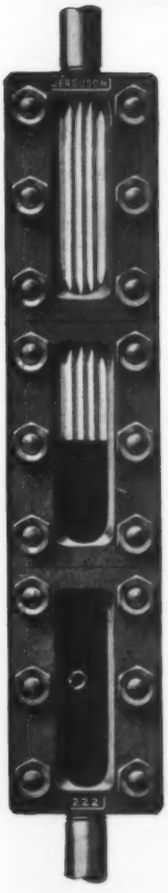

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acidized, 150 bbls. Donnally and Sindorf No. 1 Sapp, 2,043-2,110 feet, acidized, 450 bbls. J. M. Rush No. 2 Gibbs, 2,287-2,300 feet, acidized, 577 bbls. Gulf Oil Corp. No. 145 McElroy, 2,770-2,985 feet, 288 bbls.

Ector County

York and Harper No. 1 Foster, 4,113-4,212 feet, shot, 539 bbls. Stanolind Oil & Gas Co. No. 38 Cowden, 4,110-4,298 feet, shot, 464 bbls. Atlantic Refining Co. and others No. 3-A Blakeney, 4,100-4,250 feet, shot, 415 bbls.

Garza County

Gartex Oil Co. No. 3 Post Estate, 2,804-90 feet, acidized, 75 bbls.

Glasscock County

F. Dodson and others No. 1 Carter heirs, 2,632-64 feet, acidized, 50 bbls. oil and 50 bbls. water per day on pump, elevation 2,613 feet.

Howard County

Stanolind Oil & Gas Co. No. 2-B Clay, 2,527 feet, shot, 32 bbls. per hour.

Jones County

Danciger and others No. 1 Guitar, 1,987-2,005 feet, 416 bbls.

Pecos County

Aero Oil & Gas Co. No. 2-B Gregg, dry and abandoned 1,854 feet, elevation 2,425 feet. Union Oil & Mining Co. No. 2 Scharff and Blackman, dry and abandoned 2,377 feet; No. 3 Potts, 1,750-67 feet, elevation 2,424 feet, 80 bbls. D. G. Gray No. 1 Pecos Valley, 1,604-28 feet, shot, 35 bbls. Cardinal Oil Co. No. 3-E Tippett, dry and abandoned 635 feet. Ohio Oil Co. No. 38-B Yates, 1,240-1,315 feet, 257 bbls. per hour.

Upton County

Gulf Oil Corp. No. 3 Rogers, 2,266-90 feet, acidized, 633 bbls. Henderson and others No. 1-A Baker, 2,311-65 feet, acidized, 737 bbls. G. Farley and others No. 1-A Shell, 2,218-74 feet, acidized, 179 bbls.

Ward County

F. H. E. Oil Co. and others No. 5 Killough, 2,270-2,340 feet, shot, 192 bbls. C. S. Messenger No. 8 Cole, 2,180-2,290 feet, shot, 480 bbls. Prince Brothers No. 1-C Hall and Roberts, 2,324-2,527 feet, shot, 287 bbls. F. H. E. Oil Co. No. 4-A Richter, 2,920-65 feet, shot, 3,390 bbls. Rio Bravo Oil Co. No. 15 Allcott, 2,284-2,495 feet, shot, 941 bbls. Black and others No. 2 White, 2,147-93 feet, 243 bbls. Standard of Texas No. 2 McFarland, 2,508-2,650 feet, shot, 3,250 bbls. Tide Water Oil Co. No. 7 Johnson, 2,525-2,649 feet, shot, 3,888 bbls. Gulf Oil Corp. No. 11 Estes, 2,481-2,620 feet, shot, 1,304 bbls. Eastland Oil Co. No. 4 Hathaway, 2,458-2,656 feet, 233 bbls. Eppenauer Drilling Co. No. 4 Stanolind-University, 2,520-2,760 feet, 2,122 bbls. Atlantic Refining Co. No. 2-B University, 2,560-2,760 feet, shot, 1,227 bbls.

Winkler County

Eastland Oil Co. No. 5 Pure-Clapp, 2,800-3,162 feet, shot, 1,546 bbls.; No. 2-A Halley, 2,783-2,845 feet, 344 bbls. Magnolia Petroleum Co. No. 7 Colby, 2,850-3,140 feet, shot, 426 bbls.; No. 53 Walton, 2,850-2,965 feet, shot, 806 bbls.; No. 56 Walton, 2,825-3,010 feet, shot, 723 bbls. Gulf Oil Corp. No. 16 Daugherty, 3,000 feet, 1,472 bbls. Mid-Continent Petroleum Corp. No. 13 Walton, 2,810-2,970 feet, shot, 946 bbls. Sinclair Prairie Oil Co. No. 12-B Walton, 2,878-2,978 feet, shot, 1,162 bbls. W. K. Royalty Co. No. 2-A Walton, 2,960-3,052 feet, 1,391 bbls. Atlantic Refining Co. and others No. 4-E Leck, 3,070 feet, 2,053 bbls. J. R. Sharp No. 1 McCutcheon, 3,235-3,577 feet, 142 bbls. Humble Oil & Refining Co. No. 21 Howe, 2,810-3,010 feet, shot, 1,195 bbls.

PANHANDLE COMPLETIONS

Carson County

Magnolia Petroleum Co. No. 19 fee, 2,930-93 feet, shot, 669 bbls. on pump. McGill and others No. 5 Cooper, 3,050-65 feet, shot, 707 bbls. on pump. Tims-Supthen Oil Co. No. 1-A Garner, 3,115-44 feet, 20 bbls. on pump.

Hutchinson County

Dolomite Production Co. No. 1 Perkins, 2,980-3,078 feet, shot, 541 bbls. on pump. Drilling & Exploration Co. No. 9 Haile, 3,00-73 feet, 661 bbls. on pump; No. 7 Haile, 3,016-85 feet, shot, 501 bbls. on pump; No. 9 Watkins, 2,865-2,963 feet, shot, 661 bbls. on pump. C. N. McDaniel and others No. 1 Haile, 3,000-50 feet, shot, 714 bbls. on pump.

Gray County

Kewanee Oil & Gas Co. No. 10-A Morse, 2,500-42 feet, shot, 265 bbls. on pump.

Moore County

Rubin and others No. 2 Beard, 2,800-3,395 feet, plugged back to 3,150 feet, shot, 30,433,000 feet gas.

CENTRAL TEXAS COMPLETIONS

Callahan County

A. J. Bartrug No. 1 Mrs. R. Ogle, total depth 600 feet, dry and abandoned. H. V. House and others No. 1 Mrs. R. Smart, total depth 850 feet, dry and abandoned. Hal Hughes No. 2 R. D. Williams, 7 miles northwest of Putnam, 2,325 feet, dry and abandoned. W. J. Murray No. 2 H. W. Ross, northwest edge of Baird, 1,302 feet, dry and abandoned.

Palo Pinto County

Palo Pinto Oil & Gas Corp. No. 1 Zimicki, Strawn Townsite, 3,100 feet, dry and abandoned.

Shackelford County

L. J. Gorsuch No. 1 fee B, section 82, T.&P. Survey, southwest corner of county, total depth 1,547 feet, dry and abandoned. Hoffman & Page No. 24 Morris, 1,570-88 feet, 10 bbls. Kittery Oil Co. No. 6 Earheart, total depth 837 feet, dry and abandoned. Putnam Supply Co. No. 1 W. J. Dodson, total depth 977 feet, dry and abandoned. Roeser & Pendleton No. 10 Morris, section 191, gas sand 1,559-68 feet, initial production 3,000,000 feet of gas.

Stevens County

Mudge Oil Co. No. 1 W. P. Smith, 2 miles northwest of Ivan, total depth 3,374 feet, dry and abandoned.

Throckmorton County

Canyon Oil & Gas Co. No. 4 Lilly, total depth 406 feet, dry and abandoned.

NORTH TEXAS COMPLETIONS

Archer County

Nick Agnagnos No. 10 Bridwell, 903-11 feet, 100 bbls. L. T. Burns No. 1 Haytor, 1,470 feet, dry; No. 1 Morrison, 985 feet, dry. Consolidated No. 12 Portwood C-D, 1,426-45 feet, 50 bbls.; No. 13 Portwood C-D, 1,426-45 feet, 25 bbls.; No. 14 Portwood C-D, 1,420-40 feet, 20 bbls.; No. 15 Portwood C-D, 1,432-45 feet, 25 bbls. Golding & Cochran No. 6 B. R. Jeske, 1,187-95 feet, 300 bbls. H. Hines No. 1 Andrews, 1,036 feet, dry.

Clay County

Mack Thomas No. 1 Schaffner, 600 feet, dry.

Cooke County

J. Alford and others No. 1 Proffer, 2,560 feet, dry. F. W. Merrick No. 32 Knabe, 804-21 feet, 35 bbls.

Montague County

Ace Gutowsky and others No. 1 Lemon, 3,602 feet, dry. W. E. Halbert and others No. 1 W. S. Petty, 3,006 feet, dry. Texas Co. No. 13 Cunningham B, 921-48 feet, 20 bbls.

Jack County

Bennett Petroleum Co. No. 4 Chambers, 2,908-75 feet, 800 bbls. C. O. Collins No. 1 J. T. Roberts, 748 feet, dry. Engineers Oil Corp. No. 1 Shanafelt, 2,958-70 feet, 275 bbls. C. L. Ganaway No. 1 Lewis, 741 feet, dry. Hamilton Petroleum Co. No. 4 Kuykendall, 3,020-65 feet, 25 bbls. T. D. Humphrey No. 2 Birdwell, 3,003-20 feet, 500 bbls. Josaline Petroleum Co. No. 4 Eatherly, 2,955-3,000 feet, 520 bbls.

Wilbarger County

Waggoner Refining Co. No. 5 Waggoner CC, 1,120 feet, dry.

Wichita County

L. T. Burns No. 8 S. M. Daniel, 401-12 feet, 10 bbls.; No. 9 Daniel, 565 feet, dry. Coleman & Coppock No. 7 G. R. Hoge, 1,044 feet, dry. H. B. Dudley No. 1 Dodson, 600 feet, dry. Flynn and others No. 2 Mack Thomas, 1,189 feet, dry. King

Oil Co. No. 1 George Streit, 2,100 feet, dry. W. B. Omohundro No. 1 Robinson, 2,150 feet, dry. Perkins & Cullum No. 22 Burnett, 1,351-61 feet, 15 bbls.

Young County

Alexander Oil Corp. No. 7 Hamilton, 920 feet, dry. Paul Atchley No. 1 Atchley, 995 feet, dry. Duncan and others No. 16 Benson, 936 feet, dry. Falls Production Co. No. 2 Seddon, 3,958-75 feet, 1,000 bbls. Greenwood No. 1 A. C. Casey, 645 feet, dry. King Oil Co. No. 4 Johnson B, 488-531 feet, 5 bbls.; No. 29 Stewart, 846-50 feet, 20 bbls. Pitzer & West No. 1 LaPrade, 3,770-3,940 feet, 1,000 bbls. E. C. Reed No. 3 Cunningham A, 535 feet, dry. A. L. Roff No. 3 Andress, 975 feet, dry. A. T. Strong No. 1 L. L. Davidson, 4,160 feet, dry. Stuckey Oil & Gas Co. No. 2 Jeffery, 870 feet, dry. Texas Co. No. 12 N. Finch B, 668-83 feet, 50 bbls. R. J. Watson No. 3 M. Watson, 710 feet, dry.

Gulf Coast Fields

(Continued from Page 84)

is moving in a rig to work over No. 1 Long abandoned some time ago at a depth of 9,045 feet.

Two locations were announced for the Segno field, Polk County, J. K. Dorrance has derrick up for No. 2 Wing in the center of a 10-acre tract west of the discovery well in the I.&G.N. Survey No. 15, while Humble Oil & Refining Co. has staked No. 1 Kirby Lumber Co., 1,650 feet north of the south line and 1,330 feet east of the west line of the P. Garcia Survey. The Railroad Commission has announced a 10-acre spacing rule for the field with the wells prorated on a 50 per cent acreage and potential basis.

Michigan Fields

(Continued from Page 76)

9n-6w, Bushnell Township, Montcalm County, near the Vickeryville pool.

Though not in the wildcat class, the St. Louis Pipe & Supply Co. continued treating No. 1 Osterhaut, SW NW NW section 36-11n-5w, Ferris Township, Montcalm County, an edge test near the Crystal-Ferris field.

Ogemaw County

Three tests were nearing completion in the Dundee in the West Branch section of the Ogemaw field, each with showings of oil in the Dundee. They were Morris Barnes Oil & Gas Co. No. 7 Golf Club, NW NE SW section 20-22n-2e; Frank A. Balcer No. 1 Morris, SW NE SW section 25, and Weber Oil Co. No. 3 Fisk, SE NW SW section 27.

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New York-Pennsylvania Gas

COUDERSPORT, Pa., Feb. 15.—The Potter Development Co.'s wildcat on the Lessor & Launer farm in Kinzua Township, Warren County, Pennsylvania, was drilled into the Oriskany sand at 4,711½ feet this week and gauged 116,000 feet. The first gas was found 1 foot in the sand.

A 35-quart shot at 4,711½-16½ feet failed to improve the flow but resulted in the stopping of some salt water which came with the gas. The well was drilled to 4,721½ feet and is now cleaning out.

Two other Oriskany wells were drilled in this vicinity last summer, one on the same farm and the other 1,000 feet east. The first gauged 1,500,000 feet but developed salt water. The other well found salt water only in the formation.

New York State Natural Gas Co.'s test on the John Saxton farm in Harrison Township, Potter County, Pennsylvania, which got the first gas showing at 4,798 feet with an initial rock pressure of 1,980 pounds, was completed at 4,808 feet. Its initial open flow was 20,500,000 feet per day.

Pennsylvania Operations

Completion of the New York State Natural Gas Co.'s well leaves only four operations under way in Potter County. Pottor Development Co. is fishing at 5,000 feet on the Crawford Estate property in Keating Township and is drilling at 2,464 feet on the L. C. English farm in Harrison Township.

Ward Wasson Co. is cementing a cave on the W. B. Hall farm in Genessee Township. This well is down 5,010 feet. G. L. Cabot, Inc., is drilling at 1,372 feet on the R. E. Courtwright farm in Harrison Township.

Two other wildcat tests are under way in Warren County. Potter Development Co. is down 5,054 feet on the D. Spetz farm, Pittsfield Township, and Sylvania Corp. is drilling at 4,485 feet on the M. W. Jamieson farm in Kinzua Township. This well topped the Tully lime at 4,464 feet.

Potter Development Co. has two wells drilling in Tioga County, one at 320 feet on the C. G. Dearman farm in Middlebury Township and the other at 228 feet on the H. C. Kemp farm in Farmington Township.

Potter Development Co.'s Crawford County wildcat on the J. Chapin farm, Rockdale Township, is drilling at 245 feet. The same company is repairing leaking casing in the old well it is deepening on the Indiana Bank property in Fairfield Township, Westmoreland County.

New York Operations

Three Oriskany sand wells are now drilling in Allegany County. Deepest is the G. L. Cabot, Inc., well on the Lee Harder No. 2 farm, Alma Township, which is down 1,708 feet. The others are Kaufman and others on the Bank Angelica property, Allen Township, at 185 feet, and the Empire Gas & Fuel Co. on the K. Mulvey farm, Alma Township, at 120 feet.

Belmont Quadrangle Drilling Co. is fishing at 4,695 feet on the L. D. Clark farm, Greenwood Township, Steuben County. G. L. Cabot, Inc., is building the rig on the T. H. Wing farm, same township, and Atwater and others are spudding in on the Herrington farm, Woodhull Township, same county.

Belmont Quadrangle Drilling is shut down at 3,200 feet on the M. Rideout farm in Leon Township, Cattaraugus County. Cunningham Natural Gas Co. is spudding in on the H. Hotchkiss farm, Randolph Township, same county.

In the only test under way in Schuyler County, Belmont Quadrangle Drilling Co. is down 890 feet on the Federal Land Bank property in Dix Township.

Louisiana-Arkansas Fields

(Continued from Page 90)

oil accumulation and geologists from many major companies are studying the cores and log of this well for a better knowledge of the territory. The anhydrite cap was found at 1,655 feet, top of salt at 2,522 feet, and drilling progressed to 4,000 feet in salt. It is now the opinion that flank production is probable around this apparent interior salt dome.

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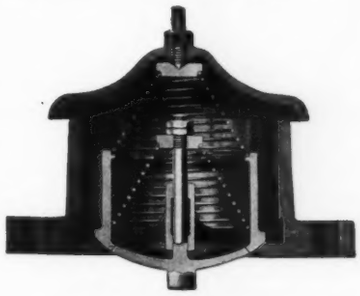

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East and East Central Texas

By
L. E. BREDBERG

LEASE OBLIGATIONS CAUSE A SHORT BOOM IN EAST TEXAS

DALLAS, Tex., Feb. 15.—This week locations in the East Texas field nearly doubled the number made during any of the past several weeks, major companies staked 34 and independents accounted for 33. The demand for more East Texas oil, coupled with the higher crude prices and necessary offset wells, caused sudden pump in number of new starts. This spurt is not expected to last, however, and locations are expected to fall back to around 25 to 35 each week.

Decision of Importance

During the week Federal Judge T. W. Davidson, in an oral opinion at Dallas, upheld production of excess oil from an East Texas field lease as a protection against drainage by offset lease owners and operators. The suit was brought by Angus Spear, land owner, against T. D. Humphrey, lessee, the Texas Railroad Commission and the attorney general of Texas to remove and market 110,000 bbls. of crude oil impounded for the past three or four years in steel storage.

State authorities had refused tenders for the removal of the oil because it was alleged to have been overproduced, or as "hot" oil.

An appeal will be taken by the attorney general, according to reports, the oil to remain in the storage until the appeal is heard.

In his decision, Judge Davidson blamed the state for failing to protect law-abiding oil operators during the period that proration enforcement was not generally observed. Consequently he felt that the above mentioned operators were only protecting themselves when they produced their leases above the prescribed allowables when offset lease owners were not abiding by regulations. His decision was no doubt influenced by evidence given that some 25,000,000 bbls. of oil had been produced in excess on leases in the vicinity of the Spear properties.

It is a decision that might be far reaching, especially if upheld by the U. S. Supreme Court, which decision will be anxiously awaited by many operators in the field and those involved in the lawsuit.

Wildcatting

Little of interest was reported during the week on wildcats in the East Texas district, since the Rains County test of the Humble Oil & Refining Co. and others on the Easter lands, and the Superior Oil Co. of California and others' test in southeastern Hunt County, are apparently out of the picture as far as production is concerned. Both of these tests have been especially important, but little is heard about them now.

Sutton & Hawkins of Tyler have staked location for a 6,500-foot test on a block of 15,000 acres about 2 miles southeast of Boston in Bowie County in the extreme northeast corner of the state. Location is on the D. L. McDuffy lands in the John Ball Survey.

Cooper Brothers of Shawnee, Okla., have been reported interested in 2,500 acres in a block near Deport in Red River County, and are considering sinking a 3,000-foot test when the leases are obtained. Location has not yet been reported.

Talco and Sulphur Bluff Fields

The Talco field in northwest Titus and northeast Franklin counties, received an even dozen producers this week, the latter county getting only two of the lot. Five locations were staked. Two producers were reported for the Sulphur Bluff field in Hopkins County. Wells in this field are registering much higher initial potentials than wells in the Talco field, although estimated reserves of Sulphur Bluff have been figured as only a quarter of the estimate for Talco field. The field may not prove as large in area as the Talco field, but the difference in caliber of wells make it look as probably a better area than the first Paluxy sand discovery, and estimates will no doubt have to be revised within the next few months.

Abandonment

The H.&H. Drilling Co. abandoned its wildcat on the J. W. Jones lands, in the James Smith Survey, 3 miles southeast of Ben Wheeler in Van Zandt County. It was given up as dry at a total depth of 3,558 feet, after missing Woodbine sand production. Elevation is 579 feet.

C. B. Collar abandoned a shallow wildcat try on the J. Lee Davis farm, 2 miles northeast of Satin in Falls County. It went to 1,180 feet, failing to pick up production found in a couple of other areas in the county.

Only one wildcat location was reported for the entire district this week, and that was in Angelina County in a shallow drilled area of little interest. Wildcatting has apparently hit another slump in the district, disappointments having detracted from the area. The recent discovery in Marion County, on the extreme east side of the district, will no doubt inspire leasing and wildcatting to the west and southwest of it, bringing the play deeper into the East Texas territory.

EAST TEXAS COMPLETIONS

Gregg County

Gulf Oil Corp. No. 81 Judge, 3,494-3,504 feet, 15 bbls. in 15 minutes. Humble Oil & Refining Co. No. 34 Edward, 3,601-3,617 feet, 55 bbls. per hour. Sabinas Oil Corp. No. 6-A Falvey, 3,696-3,706 feet, 60 bbls. per hour. Shell Petroleum Corp. No. 1 Armstrong, 3,516-69 feet, 22 bbls. in 20 minutes. Barnsdall and others No. 13 Douglas, 3,665-66 feet, 36 bbls. per hour. B. DeMayo Oil Co. No. 3 Benson, 3,638-40 feet, 40 bbls. per hour. Rajo Oil Co. No. 16 McComic, 3,713-14 feet, 18 bbls. per hour. Shell Petroleum Corp. No. 61 Watson, 3,551-71 feet, 35 bbls. in 30 minutes. Sun Oil Co. No. 38 Cole, 3,521-45 feet, 68 bbls. per hour. Tide Water Oil Co. No. 27 Hughey, 3,483-3,509 feet, 40 bbls. per hour.

Rusk County

Gulf Oil Corp. No. 22-A Christian, 3,610-50 feet, 40 bbls. per hour. Atlantic Refining Co. No. 7-A Giles, 3,660-3,799 feet, 36 bbls. per hour. Crabetree & Jeffry No. 5 Giles, 3,646-51 feet, 20 bbls. in 30 minutes. Davis & Hart No. 2 Perry, 3,646-51 feet, 20 bbls. in 30 minutes. P. G. Lake, Inc., No. 8 Dickerson, 3,573-3,616 feet, 43 bbls. per hour. Marco Oil & Gas Co. No. 3 Gossett, 3,676-77 feet, 15 bbls. in 30 minutes.

✣

H. R. Stasney and A. V. Jones, consulting geologists and producers of Albany, Tex.

COMPLETIONS IN EAST CENTRAL TEXAS

Falls County

C. B. Collard No. 1 J. Lee Davis, 2 miles north east of Satin, dry and abandoned, 1,180 feet.

Franklin County

Humble Oil & Refining Co. No. 26 King & Hughes, 4,321 feet, 284 bbls. in 24 hours. Magnolia Petroleum Co. No. 5 Owings, 4,145-4,300 feet, 15 bbls. per hour on swabbing.

Titus County

B. G. Byars and others No. 2-A Balcher, 4,220-4,373 feet, 20 bbls. per hour; No. 2-A Blackburn, 4,244-4,315 feet, 76 bbls. in six hours. Jack Harrell No. 2 Truitt, 4,352 feet, 10 bbls. per hour on pump. W. B. Hinton and others No. 5 Wilson, 4,320 feet, 5 bbls. per hour through one-fourth inch choke. Humble Oil & Refining Co. No. 5 Monnig Dry Goods Co., 4,330 feet, 85 bbls. in eight hours; No. 1 Pan-American Insurance Co., 4,322 feet, 154 bbls. in 24 hours through one-fourth inch choke. Magnolia Petroleum Co. No. 3 Crawford, 4,161-4,310 feet, 15 bbls. per hour on pump. Tide Water Oil Co. No. 3 Wilson, 4,346 feet, 5 bbls. per hour. Torrens & Conally No. 1 Keith, 4,345 feet, 238 bbls. in 24 hours on pump. W. M. White No. 1 Garrett, 4,345 feet, 100 bbls. in 24 hours on pump.

Henderson County

Cortex Petroleum Co. No. 3 Harton, 4,079-97 feet, 171 bbls. in 24 hours.

Hopkins County

Goldston and others No. 3 Smith, 4,505 feet, 25 bbls. per hour through one-fourth inch choke. Hager and others No. 2 Worsham, 4,561 feet, 12 bbls. per hour.

Van Zandt County

H. & H. Drilling Co. No. 1 J. W. Jones, dry and abandoned 3,558 feet, elevation 579 feet.

Wood County

G. W. Nix and others No. 1 E. A. Russell, dry and abandoned 600 feet, elevation 349 feet.

Well Spacing Committee

M. Albertson, Shell Petroleum Corp., Houston, Tex., has been appointed national chairman of the special study committee on well spacing of the American Petroleum Institute's division of production, by Dr. B. B. Wescott, chairman of the central committee on drilling and production practice.

The study committee will cooperate with the committee on well spacing recently appointed by President Axtell J. Byles, of the Institute, consisting of 3 oil company executives and alternates, with George A. Hill, Jr., Houston Oil Co., Houston, as chairman.

Members of the special study committee follow:

G. S. Bays, Stanolind Oil & Gas Co., Tulsa; H. W. Bell, Rodessa Engineering Committee,

Shreveport, La.; W. B. Berwald, Bureau of Mines, Bartlesville, Okla.; H. H. Hardison, California Co., Midland, Tex.; F. E. Heath, Sun Oil Co., Dallas, Tex.; N. M. Hutchinson, Empire Oil & Refining Co., Eldorado, Kans.; D. R. Knowlton, Phillips Petroleum Co., Bartlesville; Edgar Krause, Atlantic Refining Co., Carlsbad, N. Mex.; G. V. D. Marx, Standard Oil Co. of California; H. N. Marsh, General Petroleum Corp., Vernon, Calif.; H. C. Miller, Bureau of Mines, San Francisco; R. Van A. Mills, Continental Oil Co., Ponca City, Okla.; T. V. Moore, Humble Oil & Refining Co., Houston; W. S. Morris, East Texas Engineering Association, Kilgore, Tex.; E. L. Rawlins, United Gas Public Service Co., Houston; C. E. Reistle, Jr., Humble Oil & Refining Co., Houston; L. C. Uren, University of California; C. D. Watson, Carter Oil Co., Tulsa; F. E. Wood, Standard Oil Co. (Indiana), Chicago; and R. D. Wyckoff, Gulf Research and Development Corp., Houston.

Petroleum Exports

NEW YORK.—Petroleum exports from the United States during December, 1936, were valued at $20,772,938. Exclusive of lubricating grease and wax reported in pounds and asphalt and coke shipped in tons, petroleum and products exports in December totaled 9,655,088 bbls.

The largest bulk was provided by crude-oil shipments. During December crude-oil shipments of 3,665,834 bbls. were valued at $5,104,171. Next were bulk gasoline shipments of 1,573,328 bbls. valued at $3,630,680. Less than 5 per cent of the export gasoline business is shipped in containers. Only 69,286 bbls. of gasoline valued at $362,177 was shipped in December.

Embracing all classes of lubricating oil, foreign shipments valued at $5,174,237 produced the greatest revenue during December, exceeding crude values by slightly more than $70,000. However, bright stock, cylinder oil and black oil shipments totaled only 622,759 bbls. during December. Shipments of kerosene, gas oil and distillate fuel and residual fuel oils all exceeded 1,000,000 bbls. during the last month of 1936. The quantities and values of various products exported in December reported by the department of commerce follow:

Products—	Quantity	Value
Crude oil	3,665,834	$5,104,171
Natural gasoline	126,846	309,712
Bulk gasoline	1,573,328	3,630,680
Gasoline in cans	69,286	362,177
Mineral spirits	*96,114	15,096
Naphtha, solvents	125,823	503,619
Bulk kerosene	595,886	1,083,803
Kerosene in cans	70,248	333,834
Gas oil, distillate	1,460,983	1,967,411
Residual fuel oil	1,287,975	1,156,378
Lubricating oil:		
Red and pale	369,059	2,718,612
Black	28,653	225,743
Cylinder	225,047	2,219,882
Transformer oil	*92,326	23,485
Light lube oil	*68,627	47,744
Lubricating grease	†8,031,305	324,938
Paraffin wax:		
Unrefined	†7,761,807	201,067
Refined	9,561,106	332,281
Asphalt	‡8,456	150,276
Petroleum coke	‡7,172	62,029
Total		$20,772,938
Barrels	3,655,088	
Pounds	25,354,220	
Tons	15,628	

All quantity figures in barrels, except (*) in gallons, (†) in pounds and (‡) in tons.

To Restore New York Tax

NEW YORK.—Reinstatement of the cent motor fuel tax eliminated in New York state last year has been asked by Gov. Herbert H. Lehman in his budget message to the legislature. The petroleum industry is preparing to oppose reinstatement of the cent tax, making a total of 4 cents per gallon, with figures showing New York is out of step with the country at the higher rate.

During the first six months of 1936, when the New York tax was 4 cents, New York motorists consumed 755,112,000 gallons of gasoline, an increase of 4.36 per cent over 1935, when the tax rate was 3 cents. During the same period, however, the remainder of the country consumed 8,979,280,000 gallons, or an increase of 10.09 per cent. From July through October, with the tax rate reduced to 3 cents, New York consumption increased 9.51 per cent over the same period in 1935, when the tax rate was 4 cents. The remainder of the country increased 9.66 per cent in gasoline consumption from July through October, or approximately the same as in New York.

Kansas Fields

(Continued from Page 87)

section 28-25-14, topped lime at 1,518 feet and was dry and abandoned at 1,530 feet, total depth.

Work was started at two new tests in Woodson County. Elbar Corp. No. 6 Opperman, NW NE NE section 27-23-14, set 8-inch casing at 1,135 feet and was drilling at 1,200 feet. Lilly and others No. 1 Haffster, NW NE SE section 3-24-15, spudded and was shut down.

Sumner County

All new Sumner County work was confined to the Wellington pool, where work was started at three new operations. Transwestern Oil Co. No. 7 Murphy, SE SW SE section 32-31-1w, was building rotary rig. Same company's No. 8 Murphy, NW NE SE section 32-31-1w, was moving in material. Stelbar Oil Corp. No. 11 Erker, C W half E half SW section 33-31-1w, was moving in material.

Chautauqua County

Barbara Oil Co. was moving in machine for a new Chautauqua County test at No. 1 Gormain, SE SE NW section 23-32-10. It is about 2½ miles southeast of the Oliver Siliceous lime pool.

Stevens County

Panhandle Eastern Pipe Line Co. No. 1 Morgan, C NW section 27-33-39w, Hugoton field, Stevens County, had first gas at 2,510 feet, was bottomed at 2,800 feet, produced 7,986,000 feet of gas and was completed.

Suez Canal Oil Traffic

Crude oil and petroleum products moving from the Pacific Coast through the Panama Canal either for Atlantic coastal ports or European destinations averaged more than 2,000,000 bbls. per month during September, October and November.

Western movement of petroleum and its products through the Panama Canal for the same three months averaged 363,265 bbls. per month, but less than 30 per cent of the total was for Pacific Coast ports. Only about the same percentage of Panama Canal petroleum traffic originating from the Pacific Ocean side was consigned to Atlantic Coast ports.

The accompanying table shows the Panama Canal movement for September, October and November in terms of tons (2,240 pounds), and by products. Crude-oil movements from Pacific to Atlantic ends of the canal were particularly heavy, but only a small part is shown in reports from Washington, D. C., as intended for Atlantic seaboard delivery. From 30 to 50 per cent of the gasoline and naphtha shipped from the Pacific Coast was labeled for delivery at Atlantic ports.

The lubricating-oil and grease shipments from Atlantic Coast ports were 30 to 50 per cent for Pacific Coast destination.

PANAMA CANAL PETROLEUM TRAFFIC

(Figures in tons)

	United States intercoastal						For all trade routes					
Products—	Atl.-Pac. Sept.	Pac.-Atl. Sept.	Atl.-Pac. Oct.	Pac.-Atl. Oct.	Atl.-Pac. Nov.	Pac.-Atl. Nov.	Atl.-Pac. Sept.	Pac.-Atl. Sept.	Atl.-Pac. Oct.	Pac.-Atl. Oct.	Atl.-Pac. Nov.	Pac.-Atl. Nov.
Crude oil	....	115	.....	.....	.....	.....	90	137,724	.....	113,462	62	108,130
Gas and fuel	78	10,653	.....	59	.....	34,596	21,691	41,554	16,755	22,505	31,677	34,596
Gasoline, naphtha	20	41,899	8,430	46,337	.....	22,634	347	129,353	8,601	97,998	2,041	75,154
Kerosene	.....	18	.....	19,653	.....	29,714	9,170	31,493	.....	40,426	177	49,396
Lube and grease	8,541	1,465	8,667	1,025	10,534	63	21,601	1,881	20,987	1,210	21,764	180
Unclassified	43	25	527	.....	.....	.....	43	25	679	.....	.....	.....
Total	8,682	54,175	17,624	67,074	10,534	87,007	52,942	342,035	47,022	275,601	55,721	267,456

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Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Feb. 15.—On the west side of South Turner Valley, B.&B. Co. No. 1 LSD 12, section 28-18-2w5, finished in the Madison limestone at 6,608 feet, completed an official 24-hour production test with a rating of 2,100 bbls. a day of 48 gravity crude. Actual flow was 1,975 bbls. but the test was interrupted by a 30-minute shut down due to a freezing valve. The field price of this grade of crude is $1.79 a barrel. The well is the largest producer ever drilled in western Canada, and the largest in the entire Dominion since the early Oil Springs, gushers in Ontario in 1862.

The location is less than one-half mile almost due south of Turner Valley Royalties No. 1, the first large crude producer on the west flank and about 1¼ miles north of Foundation Royalties No. 1 crude producer in LSD 5, section 21-18-2w5. The test was sponsored by R. A. Brown, Sr., and associates of Calgary, who last June completed Turner Valley Royalties No. 1. The test got the lime at 6,195 feet. After cementing casing at 6,215 feet it was deepened to 6,608 feet, when bailing was started. After about 2½ days bailing the well cleared itself and sprayed mud and oil over the top of the derrick. An initial test produced 528 bbls. in six hours, and the official government test was then taken. The first production was around 46 gravity, the gravity later mounting to 48. The oil was accompanied by between 5,000,000 and 6,000,000 feet of gas. Production is being taken by British American Oil Co., most of it being handled by pipe line to Calgary while several 1,000-bbl. tanks are being set up to take care of excess production. There is no rotary fluid or water with the oil. A settled production around 1,800 bbls. a day is anticipated.

A series of back-pressure tests are being conducted to determine the most efficient oil-gas ratio for steady production, and an extra production line has been run from the well to the separators.

In section 21-18-2w5, Foundation Royalties No. 1, LSD 5, bottoming in the lime at 6,456 feet, has finished milling the bailer which blocked the hole, and is preparing to test production. With the bailer in the hole it tested 342 bbls. a day, which is expected to increase with the hole clear.

Tests in the Lime

In section 21-18-2w5, Newfold Royalties No. 1, LSD 11, got the Madison limestone around 5,800 feet and is standing cemented at 5,813 feet. The lime here was 205 feet higher than in Foundation No. 1. In the same section, West Side Royalties No. 1, LSD 3 has a fishing job 90 feet in the lime at 6,030 feet. Both tests are sponsored by the Brown group.

West Side Drilling

In section 30-19-2w5, Dalhousie Oil Co. No. 8, LSD 6, is below 6,019 feet, with the lime expected around 6,400 feet.

Kermac Petroleums, Ltd., headed by James Kerr of Victoria, British Columbia, is preparing for a test on a 160-acre block in NE quarter section 18-19-2w5. The acreage is between 1 and 2 miles south of Dalhousie No. 8, and 4 miles north and a mile west of the proven crude area. W. S. Applegate, formerly with Imperial Oil, Ltd., will supervise operations.

In section 5-19-2w5, Mercury Royalties No. 1, LSD 8, is below 925 feet. Mercury Oils No. 8, LSD 3, section 4-19-2w5, offsetting Sterling Pacific No. 3 producer to the north, has spudded.

In section 33-18-2w5, Royalite Oil Co. No. 4 Sterling Pacific, LSD 4, is below 6,355 feet. No. 5 Sterling Pacific, LSD 12, is rigging.

In section 28-18-2w5, Richland Royalties No. 1, NE quarter LSD 12, between Turner Valley Royalties No. 1 and B.&B. No. 1, is rigged ready to spud. Richland No. 2, LSD 5, same section, is preparing to run 10-inch to 4,060 feet. Richland No. 3 Central, LSD 14, offsetting Century Royalties No. 1, has resumed from 4,150 feet after running casing. It got considerable shows of gas and oil around 3,800 feet.

In section 29-18-2w5, Share Royalties No. 1, LSD 8, is planning to start work this month. Location is about a quarter mile diagonally southwest from B.&B. No. 1 producer. National Petroleum Corp. No. 1, S half same LSD, is preparing to start with rotary. It has taken an option on the George Harris tract in LSD 1, same section. Globe Royalties No. 1, LSD 7, is commencing work.

Davies Petroleums No. 1, LSD 2, is working on cellar and laying gas line. It is expected to spud about the end of the month. Location is about a half mile south and west of B.&B. No. 1. Sunburst Oil Co. No. 1, N half LSD 1, same section, is arranging drilling contract and will start work as soon as the weather moderates.

In section 20-18-2w5, Monarch Royalties No. 1, LSD 9, is below 90 feet. Consolidated Oils, Ltd., has secured 80 acres from Okalta Oils, Ltd., in LSDs 13-14, same section. J. C. Poffenroth and associates of Edmonton, Calgary and Toronto have also taken up Okalta acreage in LSDs 11-12, same section.

Prairie Royalties No. 1, LSD 16, section 17-18-2w5, has derrick up waiting for equipment. Firestone Petroleums No. 1, LSD 13, section 16-18-2w5, has preliminary work completed and is waiting for rotary outfit from Foundation Royalties No. 1 producer. National Petroleums No. 2, LSD 14, section 9-18-2w5, is working on rig.

Phillips to Resume

In the North Turner Valley area John Phillips and associates of Calgary are arranging to resume work on No. 1 test, LSD 16, section 16-20-3w5, which has been standing at 2,370 feet. Location is approximately 1 mile southwest of Model Oils No. 1, LSD 8, section 22-20-3w5. The latter, brought in about 1926, was the first Turner Valley well to get light crude production in the lime instead of naphtha. It has maintained a steady production around 140 bbls. a day, with a total of over 1,000,000 bbls. The Phillips interests hold some 400 acres. The test is expected to get the producing horizon with about 4,000 feet additional drilling.

High River—Aldersyde

In the High River area east of Turner Valley, Arca Development Corp. No. 1, NW section 24-18-2w5, is 121 feet in the Madison limestone below 8,877 feet depth. There has been no oil showings through the rotary mud yet, and the test is expected to go below 9,000 feet for production.

Tests in the Foothills

In the Forest Reserve area west of Olds, Hunter Valley Oil Co. No. 1 McLaren, LSD 12, section 13-31-10w5, is in hard grey limey formation formation below 7,041 feet.

On the Kootenay dome structure west of Calgary, Roxana Petroleum No. 1, section 8-24-7w5, is below 1,650 feet, more than 700 feet in the lime. The Madison shows numerous hard bands with intervening thin porous streaks which give a little gas production.

On the Watson structure, Mar Jon Oil Co. No. 3, LSD 3, section 4-10-2w5, is standing at 5,308 feet. Considerable gas has been encountered, the heavy flow in one horizon lifting the tools 1,000 feet in the hole. A subsidiary company is being formed to complete the well, for which rotary tools will be used.

On the Mill Creek structure west of Pincher Creek, Weymarn Petroleums No. 2, LSD 5, section 7-6-1w5, bottoming at 5,960 feet, is running casing for a production test.

Central West Fields

(Continued from Page 82)

without a show of oil or gas and was abandoned when the hole filled with water. The same company completed a commercial gas well on the J. L. Winner farm in section 34, Rome Township. This gasser was completed in the same sand at 931-98 feet.

INDIANA FIELDS

Operations in the Indiana fields are progressing very slowly at the present time and it will probably be two or three weeks before this section returns to normal activity. In Pike County, NW NE section 24, Jefferson Township, P. G. Thomas No. 1 John Harrison and wife was drilled to a total depth of 835 feet and was a small gas well. In the SE quarter of section 14, Logan Township, P. C. Andrews & Co. No. 13 Enos Loveless was drilled to a total depth of 1,399 feet and made 20 bbls. the first 24 hours. Indiana Southwestern Gas Corp. No. 2 Sallie Harmon, in the SE NE section 24, Patoka Township, was completed as a commercial gas well at a depth of 1,040 feet. In section 24, Washington Township, James W. Haven No. 1 Thomas Dean is drilling below 850 feet.

In Gibson County, SW NE section 31, Columbia Township, Midwest Development Corp. No. 1 William George & Co. was drilled to a total depth of 1,445 feet without a show of oil or gas and has been abandoned.

Oklahoma City Report

The Bureau of Mines has just issued R.I. 3330, an engineering report on Oklahoma City oil field prepared by H. B. Hill, E. L. Rawlins and C. R. Bopp of the bureau's engineering staff. While a great deal has been written about the Oklahoma City field it remained for the bureau to assemble this data into one volume. The geological information is given in much detail and followed by discussion of drilling and production methods. In the final chapters field and economic problems are discussed and statistics given to indicate probable recovery from the Lower Simpson and Wilcox formations and other similar data.

This book contains 244 mimeographed pages and is illustrated with diagrams, graphs and pictures. Only a limited number of copies were printed and while the supply lasts they can be obtained without charge from Information Division, U. S. Bureau of Mines, Washington, D. C. or the Bureau of Mines Petroleum Experiment Station, Bartlesville, Okla.

Drilling Contractors

(Continued from Page 73)

tests in Brazoria County reached the 10,000-foot horizon. They are being drilled by Harrison & Abercrombie at the Old Ocean field which has shown high gas pressure while coring below 10,050 feet while at the Chocolate Bayou Prospect, Beatty, Bowles and Borsodi No. 1 Frank Truska is making an electrical coring test at a depth of 10,041 feet.

Crude Stocks

WASHINGTON, D. C.—The Bureau of Mines reports domestic and foreign crude petroleum stocks totaled 285,384,000 bbls. on January 30, an increase of 173,000 bbls., domestic crude increasing 402,000 bbls. and foreign stocks decreasing 229,000 bbls.

Crude imports increased from 2[illegible]000 bbls. daily for the week ended January 23 to 27,000 bbls. the week following. Crude runs to stills declined, the daily average of 3,005,000 bbls. being about 50,000 bbls. below the level of the previous week.

Stocks of crude on January 30 (in thousands of barrels), and the change for January 23, follow:

	Jan. 30	Change from Jan. 23
Pennsylvania	4,136	*25
Other Appalachian	801	*6
Lima-N. E. Ind.-Mich.	778	†25
Ill.-S. W. Ind.	9,608	*25
N. La. and Ark.	10,444	†15
W. Tex., and S. E. N. Mex.	27,507	†527
East Texas	20,047	*1,058
Other Mid-Continent	114,382	*464
Gulf Coast	23,617	†427
Rocky Mountain	25,904	*21
California	29,365	†243
Foreign	1,645	†229

*Increase. †Decrease.

Summary of Operations, All Fields, January

SUMMARY OF ALL FIELDS

Wells Completed

	Comp.	Prod.	Dry	Gas
Penn. Grade fields	433	540	30	66
Lima	9	100	1	3
Central Ohio	78	250	26	40
Indiana	17	27	10	2
Kentucky	19	600	6	0
Michigan	45	5,768	23	6
Mississippi	3	.....	3	0
Kansas	126	80,790	30	5
Oklahoma	164	60,599	39	6
No. Cent. Texas	210	12,591	103	8
West Texas	186	128,043	19	1
Texas Panhandle	55	17,263	5	12
East Texas	181	10,399	10	0
East Central Texas	51	15,507	14	3
East Texas border counties	27	12,117	1	2
Gulf Coast Texas	92	24,765	26	2
Southwest Texas	283	45,090	63	14
Gulf Coast La.	35	14,262	8	0
North Louisiana	37	6,912	10	8
Arkansas	6	150	4	0
Montana	8	939	1	2
Wyoming	6	2,910	1	0
Colorado	2	.....	2	0
New Mexico	56	37,968	8	1
Nebraska	1	.....	1	0
Total Jan.	2,130	477,590	444	181
Total Dec.	2,113	493,293	439	210
Difference	73	15,703	5	29

Rigs and Wells Drilling

	Rigs	Drlg.	Ttl.
Penn. Grade fields	87	425	512
Lima	4	29	33
Central Ohio	48	152	200
Indiana	6	32	38
Kentucky	12	48	60
Illinois	3	11	14
Michigan	68	132	200
Florida	0	4	4
Alabama	0	2	2
Mississippi	4	11	15
Kansas	80	315	395
Oklahoma	63	442	505
North Cent. Texas	70	196	266
West Texas	89	337	426
Texas Panhandle	52	105	157
East Texas	46	78	124
East Central Texas	25	56	81
E. Texas border counties	10	66	76
Gulf Coast Texas	32	103	135
Southwest Texas	65	187	252
Gulf Coast Louisiana	16	87	103
North Louisiana	20	79	99
Arkansas	12	34	46
Montana	5	46	51
Wyoming	4	47	51
Colorado	2	30	32
New Mexico	20	110	130
Nebraska	0	3	3
Utah	1	7	8
Total Jan.	844	3,174	4,018
Total Dec.	832	3,283	4,115
Difference	12	109	97

OKLAHOMA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Atoka	0	0	0	0	0	4	4
Beckham	0	0	0	0	0	2	2
Caddo	2	0	1	1	0	6	6
Carter	8	144	2	0	3	12	15
Choctaw	0	0	0	0	0	1	1
Cleveland	2	1,598	0	0	1	9	10
Coal	0	0	0	0	1	6	7
Comanche	0	0	0	0	0	8	8
Cotton	1	0	1	0	1	2	3
Creek	6	67	4	0	7	26	33
Garfield	1	0	1	0	1	1	2
Garvin	2	298	0	0	1	10	11
Grady	0	0	0	0	1	2	3
Grant	0	0	0	0	0	1	1
Greer	0	0	0	0	0	1	1
Harmon	0	0	0	0	0	1	1
Hughes	8	575	1	1	4	10	14
Jackson	1	0	1	0	1	6	7
Jefferson	2	72	1	0	1	3	4
Johnston	0	0	0	0	0	1	1
Kay	1	0	1	0	1	3	4
Kiowa	3	0	2	1	1	6	7
Latimer	0	0	0	0	0	1	1
Le Flore	0	0	0	0	0	2	2
Lincoln	3	468	0	0	2	4	6
Logan	3	10,509	0	0	2	12	14
Love	0	0	0	0	0	3	3
Marshall	1	0	1	0	1	5	6
McIntosh	0	0	0	0	0	1	1
Murray	0	0	0	0	0	2	2
Muskogee	0	0	0	0	1	12	13
Noble	2	2,252	1	0	1	5	6
Okfuskee	23	6,160	3	1	1	24	25
Oklahoma	10	5,692	1	0	3	37	40
Okmulgee	0	0	0	0	3	18	21
Osage	15	1,964	3	1	1	28	29
Pawnee	2	0	2	0	0	4	4
Payne	1	15	0	0	0	0	0
Pittsburg	0	0	0	0	0	2	2
Pontotoc	36	25,728	4	0	10	84	94
Pottawatomie	3	1,514	0	0	1	16	17
Pushmataha	0	0	0	0	0	1	1
Seminole	20	3,489	8	0	9	31	40
Stephens	7	54	1	0	2	9	11
Tillman	0	0	0	0	0	4	4
Texas	0	0	0	0	0	1	1
Tulsa	1	0	0	1	1	9	10
Wagoner	0	0	0	0	1	5	6
Washita	0	0	0	0	0	1	1
Total Jan.	164	60,599	39	6	63	442	505
Total Dec.	226	80,142	50	12	55	479	534
Difference	62	19,543	11	6	8	37	29

KANSAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Barber	2	0	1	1	1	1	2
Barton	12	4,673	3	3	4	33	37
Butler	2	438	0	0	0	8	8
Chase	0	0	0	0	0	2	2
Chautauqua	5	88	2	0	2	4	6
Clark	0	0	0	0	0	1	1
Coffey	4	150	1	0	2	3	5
Cowley	3	50	2	0	2	9	11
Decatur	0	0	0	0	0	1	1
Edwards	0	0	0	0	0	1	1
Elk	2	25	1	0	1	2	3
Ellis	4	3,988	2	0	4	11	15
Ellsworth	3	2,404	1	0	0	4	4
Grant	0	0	0	0	1	0	1
Greenwood	4	266	1	0	1	7	8
Harvey	2	4,937	0	0	4	8	12
Haskell	0	0	0	0	0	1	1
Kearny	0	0	0	0	0	1	1
Kingman	1	150	0	0	1	1	2
Lane	0	0	0	0	0	1	1
Logan	0	0	0	0	0	1	1
Lyon	1	0	1	0	0	1	1
Marion	2	72	0	0	0	1	1
McPherson	9	6,218	2	0	3	13	16
Meade	0	0	0	0	1	0	1
Mitchell	0	0	0	0	0	1	1
Ness	0	0	0	0	0	1	1
Osborne	1	0	1	0	0	0	0
Pawnee	0	0	0	0	0	1	1
Pratt	0	0	0	0	0	1	1
Reno	10	3,888	3	1	6	30	36
Rice	24	17,344	2	0	16	52	68
Rooks	1	0	1	0	1	7	8
Rush	2	797	1	0	5	5	10
Russell	21	30,101	1	0	15	58	73
Saline	1	0	1	0	0	1	1
Sedgwick	0	0	0	0	0	5	5
Sheridan	0	0	0	0	0	1	1
Stafford	2	2,129	1	0	2	6	8
Stevens	0	0	0	0	0	3	3
Sumner	4	2,508	1	0	3	16	19
Trego	1	224	0	0	1	4	5
Woodson	3	340	1	0	4	8	12
Total Jan.	126	80,790	30	5	80	315	395
Total Dec.	211	138,737	60	9	71	287	358
Difference	85	57,947	30	4	9	28	37

GULF COAST FIELDS

Texas

Field—	Comp.	Prod.	Abd.	Gas	Rgs.	Dlg.	Ttl.
Ace	1	80	0	0	1	0	1
Amelia	3	951	0	0	1	1	2
Anahuac	7	3,633	1	0	4	6	10
Bay City	0	0	0	0	0	1	1
Beck (Victoria)	1	0	0	1	0	0	0
Big Hill	0	0	0	0	0	1	1
Big Creek	2	250	1	0	0	1	1
Blue Ridge	2	0	2	0	0	1	1
Boling	1	430	0	0	0	2	2
Clay Creek	0	0	0	0	0	2	2
Cleveland	1	28	0	0	0	1	1
Conroe	1	321	0	0	2	2	4
Cotton Lake	2	264	0	0	1	2	3
Dickinson	2	1,322	0	0	2	0	2
Esperson	1	144	0	0	0	2	2
Fannett	1	290	0	0	0	1	1
Fairbanks	1	480	0	0	0	0	0
Five Corners	1	80	0	0	0	0	0
Greta	2	1,665	0	0	2	2	4
Greens Lake	0	0	0	0	0	1	1
Hankamer	0	0	0	0	0	1	1
Hastings	10	4,784	0	0	4	6	10
Hawkinsville	0	0	0	0	0	1	1
Heyser	3	696	0	0	0	3	3
High Island	0	0	0	0	1	2	3
Hull	3	959	0	0	0	3	3
Keeran	0	0	0	0	0	1	1
Lockridge	0	0	0	0	0	3	3
Louise	1	64	0	0	0	1	1
Magnet	2	0	2	0	0	0	0
Manvel	1	0	1	0	0	2	2
Markham	3	0	3	0	0	3	3
Nome	1	166	0	0	1	3	4
Old Ocean	0	0	0	0	0	1	1
Orchard	1	0	1	0	0	2	2
Pickett Ridge	1	240	0	0	0	1	1
Placedo	5	837	0	0	1	3	4
Raccoon Bend	1	0	1	0	0	1	1
Refugio	1	387	0	0	0	0	0
Silsbee	1	422	0	0	2	1	3
Seabreeze	1	24	0	0	1	1	2
Segno	0	0	0	0	1	0	1
South Houston	5	1,072	2	0	0	1	1
Spanish Camp	0	0	0	0	0	1	1
Thompson	1	0	1	0	0	0	0
Tomball	6	1,688	0	1	0	3	3
Quintana-Oconnor	3	2,676	0	0	1	3	4
Turtle Bay	1	0	1	0	0	2	2
Van Vleck	1	600	0	0	0	3	3
West Columbia	0	0	0	0	0	1	1
Withers	1	212	0	0	1	3	4
Mis.	10	0	10	0	6	12	27
Ttl. Jan.	92	24,765	26	2	32	103	135
Ttl. Dec.	91	31,551	16	4	33	130	163
Difference	1	6,786	10	2	1	27	28

Coastal Louisiana

Summary of Field Operations

Field—	Comp.	Prod.	Abd.	Gas	Rgs.	Dlg.	Ttl.
Bayou Bouillon	0	0	0	0	0	1	1
Bayou Mallet	0	0	0	0	0	1	1
Bayou Blue	1	48	0	0	0	0	0
Bay St. Elaine	0	0	0	0	0	1	1
Caillou Island	1	910	0	0	0	1	1
Cameron Meadows	1	428	0	0	0	2	2
Cankton	0	0	0	0	0	1	1
Charenton	0	0	0	0	0	2	2
Choctaw	1	453	0	0	1	0	1
Darrow	1	0	1	0	0	0	0
Dog Lake	0	0	0	0	0	1	1
Gillis	3	1,389	0	0	2	5	7
Garden Island	1	406	0	0	0	0	0
Hackberry	3	873	1	0	2	8	10
Jeanerette	2	1,180	0	0	1	3	4
Jennings	2	887	0	0	2	5	7
Lafitte	2	3,200	0	0	1	1	2
Lake Barre	0	0	0	0	0	1	1
Lake Hermitage	0	0	0	0	0	1	1
Lake Pelto	0	0	0	0	0	1	1
Leesville	2	1,263	1	0	0	4	4
New Iberia	6	1,710	0	0	2	5	7
Port Barre	0	0	0	0	0	1	1
Roanoke	1	504	0	0	0	2	2
Sorrento	1	0	1	0	0	1	1
Starks	0	0	0	0	0	1	1
Sulphur	0	0	0	0	1	4	5
Tepetate	2	444	0	0	0	4	4
Valentine	1	567	0	0	1	0	1
White Castle	0	0	0	0	0	1	1
Misc.	4	0	4	0	3	29	32
Ttl. Jan.	35	14,262	8	0	16	87	103
Ttl. Dec.	28	6,105	12	0	8	84	92
Difference	7	8,157	4	0	8	3	11

NORTH AND CENTRAL TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Archer	35	285	23	0	2	12	14
Baylor	2	0	2	0	0	0	0
Brown	0	0	0	0	1	0	1
Callahan	4	40	1	1	2	5	7
Clay	4	55	2	0	2	2	4
Coleman	2	0	1	1	1	4	5
Comanche	0	0	0	0	0	1	1
Collin	1	0	1	0	2	2	4
Cooke	14	220	11	0	3	12	15
Denton	0	0	0	0	0	5	5
Eastland	9	115	2	3	0	5	5
Foard	0	0	0	0	0	1	1
Grayson	0	0	0	0	0	4	4
Hamilton	1	0	1	0	0	2	2
Hardeman	0	0	0	0	0	1	1
Jack	26	7,460	5	0	22	47	69
Johnson	0	0	0	0	0	1	1
McCulloch	0	0	0	0	0	2	2
Montague	5	285	0	0	0	10	10
Palo Pinto	0	0	0	0	0	3	3
Parker	1	0	1	0	0	0	0
Shack'lf'd	20	1,292	10	0	4	22	26
Stephens	0	0	0	0	2	4	6
Tarrant	0	0	0	0	0	2	2
Thr'km't'n	4	0	2	2	0	3	3
Wichita	26	1,550	13	0	7	16	23
Wilbarger	12	212	3	0	0	3	3
Wise	1	0	1	0	1	0	1
Young	43	1,077	24	1	21	27	48
Total Jan.	210	12,591	103	8	70	196	266
Total Dec.	177	13,783	83	1	56	210	266
Difference	33	1,192	20	7	14	14	0

TEXAS PANHANDLE

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Briscoe	0	0	0	0	0	1	1
Carson	2	1,153	0	2	3	16	19
Childress	1	0	1	0	0	0	0
Collingsworth	0	0	0	0	0	2	2
Dallam	0	0	0	0	0	1	1
Deaf Smith	0	0	0	0	0	1	1
Gray	20	7,850	1	1	17	18	35
Hansford	0	0	0	0	0	1	1
Hutchinson	23	8,260	2	1	24	46	70
Moore	7	0	0	7	3	5	8
Ochiltree	0	0	0	0	1	0	1
Potter	1	0	0	1	0	1	1
Roberts	0	0	0	0	0	2	2
Wheeler	1	0	1	0	4	11	15
Total Jan.	55	17,263	5	12	52	105	157
Total Dec.	56	22,747	2	11	21	119	140
Difference	1	5,484	3	1	31	14	17

WEST TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Andrews	2	929	0	0	2	11	13
Brewster	0	0	0	0	0	2	2
Coke	0	0	0	0	1	0	1
Crane	13	5,234	1	0	7	28	35
Cochran	0	0	0	0	0	1	1
Crockett	0	0	0	0	0	3	3
Dawson	0	0	0	0	0	1	1
Ector	14	11,046	0	0	4	27	31
Edwards	0	0	0	0	0	1	1
El Paso	0	0	0	0	0	1	1
Fisher	1	0	1	0	2	3	5
Gaines	1	189	0	0	0	2	2
Garza	0	0	0	0	0	2	2
Glasscock	5	2,287	2	0	1	4	5
Hockley	0	0	0	0	0	1	1
Howard	6	2,414	0	0	13	12	25
Hudspeth	0	0	0	0	0	1	1
Jeff Davis	0	0	0	0	0	1	1
Jones	11	2,003	6	0	2	25	27
Kimble	0	0	0	0	1	0	1
Loving	1	196	0	0	0	3	3
Lynn	1	0	1	0	0	0	0
Nolan	0	0	0	0	0	1	1
Pecos	11	11,132	4	0	6	29	35
Presidio	0	0	0	0	0	1	1
Reagan	0	0	0	0	0	1	1
Runnels	0	0	0	0	2	0	2
Reeves	0	0	0	0	1	1	2
Schleicher	0	0	0	0	0	1	1
Scurry	1	14	0	0	0	1	1
Taylor	0	0	0	0	0	2	2
Terrell	0	0	0	0	0	1	1
Terry	0	0	0	0	0	2	2
Tom Green	0	0	0	0	0	2	2
Upton	22	10,436	3	0	10	31	41
Ward	41	30,904	1	0	19	65	84
Winkler	55	50,737	0	1	18	70	88
Yoakum	1	522	0	0	0	0	0
Total Jan.	186	128,043	19	1	89	337	426
Total Dec.	140	91,204	10	2	93	311	404
Difference	46	36,839	9	1	4	26	22

EAST CENTRAL AND EAST TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Anderson	7	378	0	3	2	7	9
Angelina	0	0	0	0	1	4	5
Bowie	0	0	0	0	0	3	3
Cherokee	0	0	0	0	2	1	3
Falls	0	0	0	0	0	4	4
Fannin	0	0	0	0	0	2	2
Franklin	3	681	0	0	1	3	4
Freestone	1	0	1	0	0	2	2
Gregg	95	4,093	6	0	20	31	51
Henderson	2	230	0	0	1	1	2
Hopkins	6	310	0	0	4	2	6
Hunt	0	0	0	0	1	2	3
Kaufman	0	0	0	0	1	0	1
Lamar	0	0	0	0	0	1	1
Leon	1	0	1	0	1	0	1
Limestone	0	0	0	0	1	1	2
Nacogdoches	1	0	1	0	0	0	0
Navarro	1	5	0	0	1	0	1
Rains	0	0	0	0	0	1	1
Red River	1	0	1	0	1	4	5
Rusk	51	5,175	3	0	12	21	33
Smith	10	294	0	0	3	3	6
Titus	27	3,502	0	0	9	23	32
Upshur	25	837	1	0	9	12	21
Van Zandt	1	2	0	0	1	5	6
Wood	0	0	0	0	0	1	1
Total Jan.	232	15,507	14	3	71	134	205
Total Dec.	196	11,646	14	10	73	120	193
Difference	36	3,861	0	7	2	14	12

SOUTHWEST TEXAS

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Agua Dulce	1	0	1	0	1	3	4
Alta Mesa	1	160	0	0	0	0	0
Alworth	0	0	0	0	0	1	1
Bent'ville	1	125	0	0	1	3	4
Branyon	5	120	1	0	3	9	12
Buchanan	1	20	0	0	0	0	0
Caesar	2	0	1	1	0	0	0
Charamousca	1	0	1	0	0	1	1
Charco Redondo	0	0	0	0	0	1	1
Clara Driscoll	3	275	0	0	3	4	7
Clark	2	50	1	0	1	0	1
Cole	1	0	1	0	0	1	1
Colmena	0	0	0	0	0	1	1
Colorado	0	0	0	0	0	1	
Cuellar	1	0	1	0	0	0	0
Darst Creek	1	550	0	0	1	2	3
Dirks	1	0	1	0	0	0	0
Dunlap	0	0	0	0	0	1	1
El Mesquite	1	0	1	0	0	0	0
Escobas	23	1,180	1	0	2	3	5
Flour Bluff	7	1,150	0	0	0	6	6
Foley	1	150	0	0	0	0	0
Govt. Wells	3	50	1	1	2	2	4
Haynes	27	1,280	4	0	2	4	6
Hoffman	4	390	1	1	1	2	3
Ina	0	0	0	0	0	1	1
Jacob	3	30	1	0	1	2	3
Kingsville	0	0	0	0	0	1	1
Kohler	2	20	1	0	0	3	3
Labbe	1	0	0	1	1	2	3
La Blanca	1	100	0	0	1	2	3
Las Albercas	1	0	1	0	0	0	0
LomaNovia	19	5,260	1	0	1	3	5
London	1	250	0	0	1	0	1
Lopez	29	8,990	1	0	3	6	9
Los Olmos	0	0	0	0	0	1	1
Lucas	0	0	0	0	0	1	1
M'Campb'l	2	260	0	0	2	1	3
McCrory	1	1,000	0	0	0	0	0
Mercedes	1	0	1	0	1	0	1
N. Pettus	4	1,240	0	0	2	1	3
Oakville	1	0	1	0	0	1	1
O'Hern	15	4,660	1	0	2	3	5
Pearsall	0	0	0	0	0	2	2
Peters	0	0	0	0	0	1	1
Piedra Lumbre	1	0	0	1	0	0	0
Plymouth	2	380	0	0	1	3	4
Randado	0	0	0	0	1	0	1
Ray	0	0	0	0	0	1	1
Rhodes	2	0	1	1	0	1	1
Rio Grande City	0	0	0	0	0	1	1
Salt Flat	0	0	0	0	0	1	1
Samfordyce	4	190	0	1	1	2	3
Sandia	1	0	1	0	0	1	1
Sarnosa	0	0	0	0	0	1	1
Saxet	39	4,740	2	1	8	34	42
Saxet Heights	6	1,160	1	0	2	4	6
Seven Sisters	19	10,170	0	0	3	6	9
Stratton	0	0	0	0	1	0	1

Taft	6	1,140	0	0	1	4	5
W Premont	1	0	1	0	1	3	4
Misc.	34	0	33	1	12	47	59
Ttl Jan.	283	45,090	63	14	65	187	252
Ttl Dec.	216	39,540	57	5	88	181	269
Difference	67	5,550	6	9	23	6	17

NORTH LOUISIANA

Summary of Field Operations

Parish—	Comp.	Prod.	Dry	Gas*	Rgs.	Dlg.	Ttl.
Bienville	0	0	0	0	0	3	3
Bossier	2	0	1	1	2	8	10
Caddo-Rodessa	12	6,062	0	1	3	13	16
Caddo-Other	4	40	2	0	5	17	22
Caldwell	1	0	1	0	0	0	0
Catahoula	0	0	0	0	1	0	1
Claiborne	0	0	0	0	1	2	3
DeSoto	0	0	0	0	3	7	10
Franklin	0	0	0	0	0	1	1
Grant	4	90	2	0	0	1	1
Jackson	0	0	0	0	0	1	1
LaSalle	2	250	0	0	0	1	1
Morehouse	2	0	1	1	0	1	1
Natchitoches	0	0	0	0	0	3	3
Ouachita	1	0	0	1	0	2	2
Red River	0	0	0	0	0	2	2
Richland	0	0	0	0	0	1	1
Sabine	3	0	2	1	0	5	5
Tensas	0	0	0	0	0	2	2
Union	3	0	0	3	1	0	1
Webster	2	470	0	0	3	9	12
West Carrol	1	0	1	0	0	0	0
Winn	0	0	0	0	1	0	1
Ttl. Jan.	37	6,912	10	3	20	79	99
Ttl. Dec.	41	4,150	13	12	21	92	113
Difference	4	2,762	3	4	1	13	14

*Gas production; Bossier, 25,302,880; Caddo 40,000,000; Union, 53,000,000; Morehouse 1,000,000; Ouachita, 3,000,000; Sabine, 10,000,000.

Rodessa wells gauged by making one-hour flow through restricted choke and multiplying by 24.

ARKANSAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Calhoun	0	0	0	0	0	1	1
Clark	0	0	0	0	1	1	2
Cleveland	0	0	0	0	0	1	1
Columbia	1	0	1	0	0	0	0
Dallas	0	0	0	0	0	1	1
Grant	0	0	0	0	0	1	1
Hempstead	1	0	1	0	1	5	6
LaFayette	0	0	0	0	0	1	1
Little River	1	0	1	0	0	2	2
Lonoke	0	0	0	0	1	0	1
Miller	1	100	0	0	0	3	3
Nevada	0	0	0	0	6	7	13
Ouachita	0	0	0	0	0	6	6
Poke	0	0	0	0	0	1	1
Pulaski	1	0	1	0	0	0	0
Sevier	0	0	0	0	1	0	1
Union	1	50	0	0	2	4	6
Ttl. Jan.	6	150	4	0	12	34	46
Ttl. Dec.	6	1,281	2	0	9	34	43
Difference	0	1,131	2	0	3	0	3

EAST TEXAS

(Border Counties)

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas*	Rgs.	Dlg.	Ttl.
Bowie	0	0	0	0	0	3	3
Cass (Rodessa)	25	12,117	0	1	6	47	53
Harrison	0	0	0	0	2	4	6
Marion	0	0	0	0	1	5	6
Panola	1	0	0	1	1	2	3
Sabine	0	0	0	0	0	1	1
Shelby	1	0	1	0	0	4	4
Ttl. Jan.	27	12,117	1	2	10	66	76
Ttl. Dec.	45	19,115	2	2	12	64	76
Difference	18	6,998	1	0	2	2	0

*Gas production: Cass, 6,000,000; Panola, 5,000,000 feet.

ALABAMA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Houston	0	0	0	0	0	1	1
Washington	0	0	0	0	0	1	1
Ttl. Jan.	0	0	0	0	0	2	2
Ttl. Dec.	0	0	0	0	0	2	2

MISSISSIPPI

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Hinds	0	0	0	0	0	2	2
LaFayette	0	0	0	0	0	1	1
Bolivar	0	0	0	0	0	1	1
Washington	0	0	0	0	0	1	1
Lauderdale	0	0	0	0	0	1	1
Simpson	0	0	0	0	1	0	1
Claiborne	0	0	0	0	0	1	1
Jones	1	0	1	0	0	1	1
Grenada	0	0	0	0	1	0	1
Lamar	1	0	1	0	0	1	1
Harrison	0	0	0	0	0	1	1
Yalobusha	0	0	0	0	1	0	1
Kemper	0	0	0	0	1	0	1
Perry	1	0	1	0	0	1	1
Ttl. Jan.	3	0	2	0	4	11	15
Ttl. Dec.	1	0	1	0	4	12	16
Difference	2	0	2	0	0	1	1

FLORIDA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Lake	0	0	0	0	0	2	2
Nassau	0	0	0	0	0	1	1
Hillsborough	0	0	0	0	0	1	1
Ttl. Jan.	0	0	0	0	0	4	4
Ttl. Dec.	0	0	0	0	0	4	4
Difference	0	0	0	0	0	0	0

ROCKY MOUNTAIN AREA

Wyoming

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Albany	0	0	0	0	0	3	3
Big Horn	2	680	0	0	1	8	9
Carbon	1	2,000	0	0	2	4	6
Converse	0	0	0	0	0	3	3
Fremont	0	0	0	0	0	3	3
Lincoln	0	0	0	0	0	4	4
Niobrara	0	0	0	0	1	10	11
Park	1	200	0	0	0	1	1
Uinta	0	0	0	0	0	2	2
Washakie	2	30	1	0	0	3	3
Misc.	0	0	0	0	0	6	6
Total Jan.	6	2,910	1	0	4	47	51
Total Dec.	21	3,808	8	2	6	50	56
Difference	15	898	7	2	2	3	5

Colorado

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Adams	0	0	0	0	0	2	2
Archuleta	0	0	0	0	0	6	6
Boulder	1	0	1	0	0	0	0
Kiowa	0	0	0	0	0	1	1
La Plata	0	0	0	0	0	2	2
Larimer	0	0	0	0	0	2	2
Las Animas	0	0	0	0	0	3	3
Moffat	0	0	0	0	2	3	5
Park	0	0	0	0	0	3	3
Pueblo	1	0	1	0	0	0	0
Misc.	0	0	0	0	0	8	8
Total Jan.	2	0	2	0	2	30	32
Total Dec.	3	1,920	2	0	4	31	35
Difference	1	1,920	0	0	2	1	3

Montana

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Big Horn	1	0	0	1	0	1	1
Carbon	0	0	0	0	0	4	4
Fallon	0	0	0	0	0	2	2
Fergus	0	0	0	0	0	8	8
Glacier	4	799	0	0	2	6	8
Liberty	0	0	0	0	0	1	1
Petroleum	0	0	0	0	0	1	1
Phillips	0	0	0	0	0	3	3
Pondera	0	0	0	0	1	3	4
Toole	1	0	0	1	2	9	11
Yellowstone	2	140	1	0	0	1	1
Misc.	0	0	0	0	0	7	7
Total Jan.	8	939	1	2	5	46	51
Total Dec.	20	1,014	2	3	3	49	52
Difference	12	75	1	1	2	3	1

Utah

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Total Jan.	0	0	0	0	1	7	8
Total Dec.	2	15	1	0	1	7	8
Difference	2	15	1	0	0	0	0

Nebraska

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Sioux	1	0	1	0	0	0	0
Misc.	0	0	0	0	0	3	3
Total Jan.	1	0	1	0	0	3	3
Total Dec.	0	0	0	0	0	4	4
Difference	1	0	1	0	0	1	1

New Mexico

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Bernalillo	0	0	0	0	0	2	2
McKinley	1	0	1	0	0	5	5
Santa Fe	0	0	0	0	0	2	2
San Juan	1	0	1	0	0	4	4
San Miguel	0	0	0	0	0	3	3
Torrance	1	0	1	0	0	0	0
Valencia	1	0	1	0	0	1	1
Lea	50	37,825	3	1	18	76	94
Eddy	2	143	1	0	2	12	14
Roosevelt	0	0	0	0	0	3	3
Otero	0	0	0	0	0	2	2
Total Jan.	56	37,968	8	1	20	110	130
Total Dec.	36	20,141	3	2	6	130	136
Difference	20	17,827	5	1	14	20	6

KENTUCKY FIELD

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Henderson	2	25	0	0	2	2	4
Johnson	0	0	0	0	0	5	5
McLean	10	270	3	0	4	16	20
Ohio	7	305	3	0	6	17	23
Wayne	0	0	0	0	0	6	6
Warren	0	0	0	0	0	2	2
Total Jan.	19	600	6	0	12	48	60
Total Dec.	33	532	15	0	20	55	75
Difference	14	68	9	0	8	7	15

PENNSYLVANIA GRADE FIELDS

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Bradford	185	174	0	0	12	87	99
Allegany	93	52	0	0	6	41	47
N. Y.-Pa. gas	3	0	1	2	9	16	25
Venango-Clarion	20	21	1	2	5	11	16
Butler-Armstrong	5	19	3	0	4	8	12
S. W. Pa.	13	30	2	8	8	39	47
S. E. Ohio	38	200	8	5	11	57	68
W. Virginia	76	44	16	49	32	166	198
Ttl. Jan.	433	540	30	66	87	425	512
Ttl. Dec.	421	1,294	46	79	86	425	511
Difference	12	754	16	13	1	0	1

Completions include 72 water-intake wells in the Bradford field; 41 water-intake wells in Allegany and 3 pressure wells in the Venango-Clarion district.

CENTRAL WEST FIELDS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Lima	9	100	1	3	4	29	33
Cent. Ohio	78	250	26	40	48	152	200
Indiana	17	27	10	2	6	32	38
Illinois	0	0	0	0	3	11	14
Kentucky	19	600	6	0	12	48	60
Total Jan.	123	977	43	45	73	272	345
Total Dec.	127	794	37	56	94	309	403
Difference	4	183	6	11	21	37	58

LIMA FIELD

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Allen	0	0	0	0	0	1	1
Darke	0	0	0	0	0	1	1
Hancock	0	0	0	0	0	6	6
Hardin	1	35	0	0	0	2	2
Fulton	0	0	0	0	0	2	2
Lucas	0	0	0	0	0	1	1
Logan	0	0	0	0	0	2	2
Putnam	0	0	0	0	0	3	3
Sandusky	2	5	1	0	0	2	2
Seneca	4	34	0	3	2	4	6
Wood	0	0	0	0	0	5	5
Wyandot	2	26	0	0	2	0	2
Total Jan.	9	100	1	3	4	29	33
Total Dec.	3	1	0	2	6	31	37
Difference	6	99	1	1	2	2	4

ILLINOIS FIELD

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Boyd	0	0	0	0	1	0	1
Clay	0	0	0	0	0	1	1
Clinton	0	0	0	0	0	2	2
Macon	0	0	0	0	1	0	1
Marion	0	0	0	0	0	2	2
Jackson	0	0	0	0	0	1	1
Jefferson	0	0	0	0	1	0	1
Jasper	0	0	0	0	0	2	2
Wayne	0	0	0	0	0	3	3
Total Jan.	0	0	0	0	3	11	14
Total Dec.	0	0	0	0	2	10	12
Difference	0	0	0	0	1	1	2

INDIANA FIELD

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Daviess	4	0	3	1	1	2	3
Decatur	0	0	0	0	1	3	4
Gibson	0	0	0	0	0	3	3
Hancock	0	0	0	0	0	1	1
Harrison	0	0	0	0	0	1	1
Jay	0	0	0	0	0	2	2
Knox	3	0	2	1	1	3	4
Martin	0	0	0	0	0	1	1
Perry	3	5	1	0	1	1	2
Pike	2	15	1	0	2	3	5
Posey	1	0	1	0	0	1	1
Randolph	1	4	0	0	0	1	1
Ripley	0	0	0	0	0	1	1
Shelby	0	0	0	0	0	1	1
Spencer	2	0	2	0	0	2	2
Vanderburgh	1	3	0	0	0	4	4
Vigo	0	0	0	0	0	1	1
Warrick	0	0	0	0	0	1	1
Total Jan.	17	27	10	2	6	32	38
Total Dec.	27	66	12	8	9	36	45
Difference	10	39	2	6	3	4	7

CENTRAL OHIO FIELD

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Ashland	5	0	2	3	2	7	10
Athens	11	0	4	7	7	21	28
Coshocton	3	120	1	1	3	3	6
Cuyahoga	2	0	0	2	0	3	3
Delaware	0	0	0	0	0	1	1
Fairfield	1	0	1	0	0	3	3
Harrison	0	0	0	0	0	1	1
Gallia	0	0	0	0	0	1	1
Hocking	2	0	1	1	0	5	5
Holmes	3	0	1	2	3	6	9
Huron	2	2	0	1	0	2	2
Knox	7	7	1	5	2	6	8
Licking	5	101	0	1	4	8	12
Lorain	3	0	1	2	4	9	13
Medina	4	5	1	2	2	6	8
Meigs	12	0	5	7	7	14	21
Morgan	3	0	2	1	2	8	10
Perry	4	3	2	1	3	6	9
Portage	0	0	0	0	0	2	2
Richland	1	0	1	0	0	2	2
Stark	3	0	0	3	4	21	25
Summit	1	0	1	0	0	4	4
Tuscarawas	1	0	0	1	0	4	4
Wayne	3	8	2	0	2	5	7
Vinton	2	4	0	0	2	4	6
Total Jan.	78	250	26	40	48	152	200
Total Dec.	64	195	10	46	57	177	234
Difference	14	55	16	6	9	25	34

MICHIGAN

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Alcona	0	0	0	0	1	0	1
Allegan	0	0	0	0	0	2	2
Arenac	4	1,250	2	0	5	16	21
Bay	1	0	1	0	0	0	0
Cass	0	0	0	0	1	0	1
Chippewa	0	0	0	0	1	0	1
Clare	2	0	1	1	0	1	1
Clinton	1	0	1	0	0	1	1
Gladwin	2	1,200	1	0	7	17	24
Gratiot	2	0	1	1	4	11	15
Hillsdale	0	0	0	0	0	1	1
Huron	1	0	1	0	0	1	0
Ingham	0	0	0	0	2	0	2
Ionia	0	0	0	0	1	0	1
Isabella	9	2,434	4	0	7	19	26
Jackson	0	0	0	0	1	0	1
Kent	0	0	0	0	0	1	1
Lake	0	0	0	0	0	1	1
Lenawee	1	0	1	0	1	2	3
Livingston	0	0	1	0	1	1	2
Mackinac	0	0	0	0	0	1	1
Macomb	0	0	0	0	2	0	2
Manistee	0	0	0	0	0	1	1
Mecosta	1	0	1	0	2	5	7
Midland	2	575	0	0	5	11	16
Missaukee	1	0	1	0	0	1	1
Monroe	0	0	0	0	2	2	4
Montcalm	4	40	0	3	9	12	21
Muskegon	1	0	0	1	0	7	7
Newaygo	1	0	1	0	0	0	0
Oceana	1	0	1	0	1	0	1
Ogemaw	7	249	2	0	8	10	18
Osceola	1	0	1	0	1	1	2
Otsego	0	0	0	0	0	1	1
Ottawa	0	0	0	0	1	0	1
Roscommon	1	0	1	0	0	0	0
Saginaw	2	20	1	0	0	1	1
St. Clair	0	0	0	0	1	0	1
St. Joseph	0	0	0	0	1	0	1
Shiawassee	0	0	0	0	0	1	1
Tuscola	0	0	0	0	0	1	1
Washtenaw	0	0	0	0	0	1	1
Wayne	0	0	0	0	1	3	4
Total Jan.	45	5,768	22	6	68	132	200
Total Dec.	50	4,356	18	10	81	124	205
Difference	5	1,412	5	4	13	8	5

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WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Associated Oil Co., No. 1 Capitan, Santa Barbara Co...	2- 4-30	2,465	dry; abd.
Signal Oil & Gas, No. 98-9 Elwood, Santa Barbara Co.	tideland	1,432	sd. sh. drlg.
Bush Oil Co., No. 4 Santa Maria, Santa Barbara Co.	30-10-33	947	sd. sh. drlg.
Shaffer, W. D., No. 1 Santa Maria, Santa Barbara Co.	9- 9-32	4,950	hd. sh. drlg.
Macrate, A. N., No. 2 Santa Maria, Santa Barbara Co.	26-10-34	3,894	cleaning out
Union Oil Co., No. 11 Orcutt, Santa Barbara Co.	26- 9-34	4,083	reaming
Union Oil Co., No. 17 Orcutt, Santa Barbara Co.	26- 9-34	2,852	br. sh. drlg.
Valley Oil Co., No. 1 Casmalia, Santa Barbara Co. ...	20- 9-34	947	sd. sh. drlg.
Barnsdall Oil Co., No. 9 Gato Ridge, Santa Barbara Co.	9- 8-32	1,451	sd. sh. drlg.
Field Gasoline Corp., No. 1 Gato Ridge, Santa Barbara	4- 8-32	2,647	sd. sh. drlg.
Stewart-Carter Oil, No. 1 Gato Ridge, Santa Barbara	4- 8-32	2,311	sd. sh. drlg.
Moore, Inc., No. 1 Santa Maria, Santa Barbara Co. ...	25-10-35	8,021	redrlg. 4,889
Nine Springs Oil Co., No. 1 Los Olivos, Santa Barbara	9- 7-30	3,080	cleaning out
Dietzman, J., No. 1 Carpenteria, Santa Barbara Co. ..	8- 4-25	1,025	cleaning out
Fisher, Dan, No. 1 Cuyama, Santa Barbara Co.	28-11-28	640	sd. sh. drlg.
Texas Co., No. 132 Shiells, Ventura Co.	4- 3-19	1,071	sd. sh. drlg.
Calumet Oil Co., No. 16 Shiells, Ventura Co.	3- 3-19	2,750	sd. sh. drlg.
Merchants Pet. Co., No. 7 Sespe, Ventura Co.	1- 4-20	553	cleaning out
Condor Oil Co., No. 1 Sespe, Ventura Co.	6- 4-19	1,486	cleaning out
Speik Oil Co., No. 2 Sespe, Ventura Co.	33- 5-19	1,720	reaming
Colima Oil Co., No. 2 Sespe, Ventura Co.	25- 5-19	999	sd. sh. drlg.
Oil Ridge Oil Co., No. 1 Hopper Canyon, Ventura Co.	6- 4-18	2,774	tested wet
Bolsa Chica Oil Co., No. 4 Temescal, Ventura Co. ...	4- 4-18	4,584	P.B. 3,530
Bolsa Chica Oil Co., No. 5 Temescal, Ventura Co. ...	5- 4-18	731	cmtd. 642
Associated Oil Co., No. 1 Wiley Canyon, Ventura Co.	6- 3-18	5,076	hd. sd. drlg.
St. Louis Oil Co., No. 3 Ojai, Ventura Co.	13- 4-24	476	hd. sd. drlg.
Vaca Oil Co., No. 1 Oxnard, Ventura Co.	6- 1-21	2,822	pump. test
Continental Oil Co., No. 1 Red Mountain, Ventura Co.	7- 3-23	5,264	fish. D.P.
General Pet. Corp., No. 1 Padre Canyon, Ventura Co.	15- 3-24	5,403	rig. to pump
C. C. M. Oil Co., No. 2 Padre Canyon, Ventura Co. ...	23- 3-24	6,465	fish. D.P.
Honolulu Oil Corp., No. 1 South Mountain, Ventura Co.	23- 3-21	6,744	hd. sd. drlg.
Calco Pet. Corp., No. 4 South Mountain, Ventura Co.	17- 3-20	3,290	O.S. drlg.
Associated Oil Co., No. 27 Hartman, Ventura, Ventura	22- 3-23	5,897	sd. sh. drlg.
Associated Oil Co., No. 25 V.L.W., Ventura, Ventura	23- 3-23	7,055	milling
Associated Oil Co., No. 28 Lloyd, Ventura, Ventura	27- 3-23	5,850	redrlg. 5,497
Associated Oil Co., No. 78 Lloyd, Ventura, Ventura	27- 3-23	4,825	flow. 148 b.d.
Associated Oil Co., No. 137 Lloyd, Ventura, Ventura	27- 3-23	1,731	sd. sh. drlg.
Shell Oil Co., No. 89 Taylor, Ventura, Ventura Co.	30- 3-23	6,655	hd. sd. drlg.
General Pet. Corp., No. 34 Gornell, Ventura, Ventura	23- 3-23	7,563	redrlg. 7,119
General Pet. Corp., No. 17 Barnard, Ventura, Ventura	23- 3-23	6,390	hd. sh. drlg.
Continental Oil Co., No. 6 San Miguelito, Ventura Co.	24- 3-24	5,604	cmtd. 5,523
General Pet. Corp., No. 5 Rincon, Ventura Co.	tideland	2,828	flow. 691 b.d.
Surf Oil Co., No. 4 S.P., Rincon, Ventura Co.	8- 3-24	3,865	pump. 120 b.d.
Lube Oil Co., No. 1 Devils Den, Kern Co.	2-25-18	2,798	br. sh. drlg.
Associated Oil Co., No. 10-A-3 Lost Hills, Kern Co. ..	11-26-20	1,425	sd. sh. drlg.
Texas Co., No. 1 Theta, Lost Hills, Kern Co.	11-26-20	2,037	P.B. 1,947
Welport Oil Co., No. 16 McKittrick, Kern Co.	26-29-21	1,200	rig. to pump
Peters Royalty Corp., No. 2 McKittrick, Kern Co. ...	32-29-22	1,698	hd. sd. drlg.
Continental Oil Co., No. 1 Wasco, Kern Co.	8-27-24	9,545	hd. sh. drlg.
Belridge Oil Co., No. 14-35 North Belridge, Kern Co.	35-27-20	7,776	br. sh. drlg.
Belridge Oil Co., No. 62-27 North Belridge, Kern Co.	27-27-20	4,998	br. sh. drlg.
Belridge Oil Co., No. 21-1 North Belridge, Kern Co. ..	1-28-20	1,951	sd. sh. drlg.
Republic Pet. Co., No. 16 Kern Front, Kern Co.	24-28-27	1,941	pump. 260 b.d.
Honolulu Oil Corp., No. 48 Kern Front, Kern Co.	8-28-27	2,936	pump. 226 b.d.
M. H. Whittier Co., No. 3 Kern Front, Kern Co.	16-28-27	2,848	cleaning out
Cedar Oil Co., No. 1 Gill, Kern Front, Kern Co.	8-28-27	2,989	sd. sh. drlg.
Calif. Star Oil Co., No. 7-80 Kern Front, Kern Co	22-28-27	2,360	cmtd. 2,298
Seakayden Oil Co., No. 3 Kern Front, Kern Co.	17-28-27	2,890	P.B. 2,865
Standard Oil Co., No. 3 Ward, Kern Front, Kern Co. ..	24-28-27	1,800	cmtd. 1,695
Standard Oil Co., No. 3-9 Kern Front, Kern Co.	9-28-27	2,845	rig. to pump
Standard Oil Co., No. 4-9 Kern Front, Kern Co.	9-28-27	276	sd. sh. drlg.
Apex Pet. Corp., No. 10-1 Kern Front, Kern Co.	10-28-27	2,174	pump. 190 b.d.
Pioneer Oil Co., No. 1 Kern Front, Kern Co.	18-28-28	798	sd. sh. drlg.
National Oil Co., No. 4 Kern Front, Kern Co.	2-28-29	1,676	sd. sh. drlg.
McManus, Thomas, No. 2 Kern River, Kern Co.	2-29-28	410	rig. to pump
Roscoe & Stanley, No. 2 Premier, Kern Co.	29-27-27	2,645	pump. 194 b.d.
Golden Bear Oil Co., No. 5 Premier, Kern Co.	32-27-27	2,551	sd. sh. drlg.
Bojaki Oil Co., No. 1 Premier, Kern Co.	28-27-27	1,500	sd. sh. drlg.
Framac Oil Co., No. 3 Premier, Kern Co.	22-27-27	1,340	O.S. drlg.
Harp, E. J., No. 1 Mount Poso, Kern Co.	27-26-28	1,845	sd. sh. drlg.
Goldman, F., No. 2 Mount Poso, Kern Co.	35-27-28	1,035	sd. sh. drlg.
C. C. M. Oil Co., No. 1 Alford, Mount Poso, Kern Co.	35-27-27	2,165	gr. sd. drlg.
Magee, H. H., No. 1 Fruitvale, Kern Co.	23-29-27	3,186	pump. 150 b.d.
Magee, H. H., No. 2 Fruitvale, Kern Co.	23-29-27	1,870	sd. sh. drlg.
Western Gulf Oil Co., No. 34 Fruitvale, Kern Co. ...	21-29-27	6,665	br. sh. drlg.
Western Gulf Oil Co., No. 37 Fruitvale, Kern Co. ...	14-28-27	3,608	dry; abd.
Kasey & Associates, No. 1 Fruitvale, Kern Co.	23-29-27	3,114	sd. sh. drlg.
Meridian Oil Co., No. 2 Turner, Fruitvale, Kern Co.	23-29-27	1,570	sd. sh. drlg.
Omar Oil Co., No. 1 Fruitvale, Kern Co.	21-29-27	4,164	P.B. 4,100
Magnet Oil Co., No. 4 Fruitvale, Kern Co.	21-29-27	3,664	sd. sh. drlg.
Wood-Callahan Oil Co., No. 3 Mountain View, Kern Co.	25-30-28	4,294	sd. sh. drlg.
Hogan Pet. Co., No. 4 Symons, Mountain View, Kern	5-31-29	3,510	sd. sh. drlg.
Hogan Pet. Co., No. 8 Wharton, Mountain View, Kern	32-30-29	1,851	sd. sh. drlg.
Hogan Pet. Co., No. 9 Porter, Mountain View, Kern	29-30-29	6,098	cleaning out
Buffalo Oil Co., No. 6 Mountain View, Kern Co.	19-30-29	2,574	sd. sh. drlg.
Standard Oil Co., No. 3 C. L., Mountain View, Kern Co.	13-30-28	5,040	flow. 150 b.d.
Standard Oil Co., No. 4 Mabry, Mountain View, Kern	18-30-29	4,531	sd. sh. drlg.
Ohio Oil Co., No. 1-B Derby, Mountain View, Kern Co.	33-30-29	4,230	sd. sh. drlg.
Mohawk Pet. Co., No. 3 Hood, Mountain View, Kern Co.	30-30-29	8,689	P.B. 6,015
Berry Holding Co., No. 4 Edison, Kern Co.	10-30-29	1,926	dry; abd.
Buffalo Oil Co., No. 1 Edison, Kern Co.	24-30-29	785	idle
Johnson-Leaf Oil Co., No. 1 Edison, Kern Co.	24-30-29	1,525	cleaning out
Mohawk Pet. Co., No. 3 Earl, Arvin, Kern Co.	4-31-29	3,594	sd. sh. drlg.
General Pet. Corp., No. 1 Arvin, Kern Co.	26-31-29	7,462	P.B. 7,395
Arkelo Oil Co., No. 1 Lerdo, Kern Co.	23-28-26	8,276	br. sh. drlg.
Associated Oil Co., No. 1 Rio Bravo, Kern Co.	30-29-25	8,303	redrlg. 7,887
Standard Oil Co., No. 11-2 Greeley, Kern Co.	20-29-26	5,842	sd. sh. drlg.
Standard Oil Co., No. 12-1 Greeley, Kern Co.	30-29-26	2,571	sd. sh. drlg.
Standard Oil Co., No. 14-1 Greeley, Kern Co.	4-30-26	4,482	sd. sh. drlg.
California Western Oil, No. 22 Round Mountain, Kern	7-28-29	1,568	dry; abd.
Union Oil Co., No. 1 San Emidio, Kern Co.	34-11-22	2,781	sd. sh. drlg.
Standard Oil Co., No. 9-1 Ten Section, Kern Co.	34-30-26	8,915	P.B. 8,122
Shell Oil Co., No. 34-29 Ten Section, Kern Co.	29-30-26	8,477	P.B. 8,420
Shell Oil Co., No. 78-30, Ten Section, Kern Co.	30-30-26	7,892	sd. sh. drlg.
Signal Oil & Gas Co., No. 1 Ten Section, Kern Co. ...	21-30-27	3,598	sd. sh. drlg.
Superior Oil Co., No. 8 Ten Section, Kern Co.	11-30-26	10,409	cmtd. 10,380
C. C. M. Oil Co., No. 26-21 Midway-Sunset, Kern Co.	21-32-23	1,910	O.S. drlg.
C. C. M. Oil Co., No. 33-21 Midway-Sunset, Kern Co.	21-32-23	1,800	br. sh. drlg.
C. C. M. Oil Co., No. 1-J Midway-Sunset, Kern Co.	21-32-23	2,095	redrlg. 1,739
Hancock Oil Co., No. 5 Midway-Sunset, Kern Co. ...	8-11-23	420	sd. sh. drlg.
Five Points Oil Co., No. 2-4 Midway-Sunset, Kern Co.	18-11-23	1,001	sd. sh. drlg.
Hallmark Oil Co., No. 6 Fried, Midway-Sunset, Kern	25-12-24	2,025	sd. sh. drlg.
General Pet. Corp., No. 49 Midway-Sunset, Kern Co.	24-31-23	1,030	sd. sh. drlg.
General Pet. Corp., No. 32-6 Midway-Sunset, Kern Co.	32-32-24	3,120	pump. water
Shell Oil Co., No. 1 Midway-Sunset, Kern Co.	22-32-23	2,045	O.S. drlg.
Merritt-Annex Oil Co., No. 3 Midway-Sunset, Kern Co.	25-12-24	2,818	pump. 140 b.d.
Standard Oil Co., No. 39-23-D Midway-Sunset, Kern Co.	23-32-24	190	sd. sh. drlg.
Standard Oil Co., No. 216-33-D Midway-Sunset, Kern	33-32-24	2,830	bailing
Standard Oil Co., No. 53-33-D Midway-Sunset, Kern Co.	33-32-24	2,892	sd. sh. drlg.
Standard Oil Co., No. 52-33-D Midway-Sunset, Kern Co.	33-32-24	2,892	sd. sh. drlg.
Gibson Oil Co., No. 4 O'Brian, Midway-Sunset, Kern Co.	6-11-23	3,065	cleaning out
Goldman, Frank, No. 5 Midway-Sunset, Kern Co.	22-32-23	2,050	pump. 140 b.d.
McGray, Robert, No. 2 Midway-Sunset, Kern Co.	22-32-23	2,435	P.B. 2,386
Texas Co., No. 18 Midway-Sunset, Kern Co.	32-32-24	2,870	sd. sh. drlg.
Union Oil Co., No. 4 Williams, Midway-Sunset, Kern	22-32-23	2,122	pump. 304 b.d.
Union Oil Co., No. 6 Keene, Midway-Sunset, Kern Co.	22-32-23	1,968	sd. sh. drlg.
Birch-Ranch Oil Co., No. 2 Midway-Sunset, Kern Co.	22-32-23	1,221	sd. sh. drlg.
Valley Oil Co., No. 1 Midway-Sunset, Kern Co.	18-32-23	512	sd. sh. drlg.
Pattiway Oil Co., No. 1 Midway-Sunset, Kern Co.	12-11-24	1,797	br. sh. drlg.
Oil, Inc., No. 3 Midway-Sunset, Kern Co.	7-11-23	1,540	sd. sh. drlg.
Quality Oil Co., No. 4 Bull, Midway-Sunset, Kern Co.	22-32-23	921	sd. sh. drlg.
Honolulu Oil Corp., No. 26 Midway-Sunset, Kern Co.	14-32-24	3,470	flow. 658 b.d.
St. Helens Pet. Co., No. 1 Midway-Sunset, Kern Co.	22-32-24	3,730	P.B. 3,645
Reserve Oil & Gas Co., No. 32-1 Tejon, Kern Co.	33-11-19	4,989	idle
Reserve Oil & Gas Co., No. 33-2 Tejon, Kern Co.	33-11-19	4,495	will redrl.
Reserve Oil & Gas Co., No. 33-3 Tejon, Kern Co.	33-11-19	4,431	cleaning out
Ohio Oil Co., No. 2 Tejon, Kern Co.	21-11-19	6,662	will cmt.
Western Gulf, No. 3 Cantua, Fresno Co.	3-17-15	8,530	swabbing
Union Oil Co., No. 2 Kettleman North, Fresno Co.	29-21-17	8,500	will redrl.
K. N. D. A., No. 4-18-J Kettleman North, Fresno Co.	18-21-17	9,400	P.B. 8,288
K. N. D. A., No. 25-20-J Kettleman North, Fresno Co.	20-21-17	8,650	reaming
K. N. D. A., No. 21-30-J Kettleman North, Fresno Co.	30-21-17	8,849	P.B. 8,700
K. N. D. A., No. 36-28-J Kettleman North, Fresno Co.	28-21-17	6,142	br. sh. drlg.
K. N. D. A., No. 63-28-J Kettleman North, Fresno Co.	28-21-17	8,480	looks wet
K. N. D. A., No. 83-24-H Kettleman North, Fresno Co.	24-21-16	8,935	P.B. 8,882
K. N. D. A., No. 81-32-J Kettleman North, Fresno Co.	32-21-17	8,145	flow. 540 b.d.
K. N. D. A., No. 85-32-J Kettleman North, Fresno Co.	32-21-17	8,485	fish. D.P.
K. N. D. A., No. 63-34-J Kettleman North, Fresno Co.	34-21-17	2,510	sd. sh. drlg.
Associated Oil Co., No. 3 Kettleman North, Fresno Co.	35-21-17	8,858	will redrl.
Standard Oil Co., No. 8-19-J Kettleman North, Fresno	19-21-17	8,053	br. sh. drlg.
Standard Oil Co., No. 85-19-J Kettleman North, Fresno	19-21-17	8,619	fish. D.P.
Standard Oil Co., No. 46-13-H Kettleman North, Fresno	13-21-16	9,597	cleaning out
Standard Oil Co., No. 38-33-J Kettleman North, Fresno	33-21-17	6,097	sd. sh. drlg.
Standard Oil Co., No. 78-3-P Kettleman North, Kings	3-22-17	5,472	sd. sh. drlg.
Standard Oil Co., No. 46-19-V Kettleman Middle, Kings	19-23-19	7,962	cleaning out
Associated Oil Co., No. 2 Avenal, Kings Co.	35-23-17	1,776	gr. sd. drlg.
Calif. Producing Co., No. 1 Pattiway, San Luis Obispo	19-10-24	751	sd. sh. drlg.
United Oil Co., No. 1 Panorama, San Luis Obispo Co.	2-32-21	2,375	idle
Union Oil Co., No. 1 Huasna, San Luis Obispo Co. ...	22-32-15	4,650	br. sh. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Bldg., building.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
C.P., casing pressure.
Cd or Crd., cored.
C.D., corrected depth.
Cg., coring.
C.L., center line.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.R.T., rigging up rotary tools.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sd. sh., sandy shale.
Sdtr., or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporary abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., wait on standard rig.
Wtr., water.

Lewis, A. O., No. 1 Pecho, San Luis Obispo Co.	34-30-10	2,310	fishing
Cholame Synd., No. 1 Cholame, San Luis Obispo Co.	10-25-15	3,687	cleaning out
Anderson, Amil, No. 1 Cholame, Monterey Co.	15-24-14	1,570	idle
Texas Co., No. 1 King City, Monterey Co.	30-19-7	1,697	sd. sh. drlg.
Shell Oil Co., No. 1 Pleyto, Monterey Co.	34-24-10	8,994	P.B. 8,750
Chell Oil Co., No. 2 Pleyto, Monterey Co.	34-24-10	6,397	sd. sh. drlg.
Texas Co., No. 2 Eureka, Humboldt Co.	22- 3-1	7,418	reaming
Amerada Pet. Co., No. 5 Drouin, Rio Vista, Solano Co.	26- 4-2	4,500	swabbing
Associated Oil Co., No. 1 Sargent, San Benito Co. ...	5-12-4	6,098	hd. sd. drlg.
Standard Oil Co., No. 5 McDonald Island, San Joaquin	31- 2-5	4,150	sd. sh. drlg.
Buttes Oilfields, Ltd., No. 1 Kent, Sutter Co.	2-15-1	5,098	will cmt.
Jennings, E. P., No. 1 Allensworth, Tulare Co.	4-24-23	2,706	will cmt.
Seaboard Oil Corp., No. 1 Terra Bella, Tulare Co. ...	16-23-26	4,127	dry; abd.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Caminol Oil Co., No. 1 El Segundo, Los Angeles Co. ..	18- 3-14	6,390	sd. sh. drlg.
Caminol Oil Co., No. 2 El Segundo, Los Angeles Co. ..	18- 3-14	6,070	sd. sh. drlg.
Richfield Oil Co., No. 2 El Segundo, Los Angeles Co.	18- 3-14	7,293	cmtd.
Richfield Oil Co., No. 4 El Segundo, Los Angeles Co.	18- 3-14	6,391	sd. sh. drlg.
Ohio Oil Co., No. 2 El Segundo, Los Angeles Co. ...	7- 3-14	7,130	sd. sh. drlg.
Texas Co., No. 2-1 El Segundo, Los Angeles Co.	17- 3-14	6,891	sd. sh. drlg.
Texas Co., No. 1 Security, El Segundo, Los Angeles Co.	18- 3-14	3,960	sd. sh. drlg.
Republic Pet. Co., No. 3 El Segundo, Los Angeles Co.	18- 3-14	6,770	sd. sh. drlg.
Republic Pet. Co., No. 4 El Segundo, Los Angeles Co.	18- 3-14	5,791	sd. sh. drlg.
Republic Pet. Co., No. 5 El Segundo, Los Angeles Co.	18- 3-14	1,661	sd. sh. drlg.
Royalty Service Corp., No. 1 El Segundo, Los Angeles	7- 3-14	4,781	sd. sh. drlg.
Union Oil Co., No. 1 El Segundo, Los Angeles Co. ...	18- 3-14	6,750	sd. sh. drlg.
Leora Oil Co., No. 1 Hermosa, Los Angeles Co.	31- 3-14	2,230	sd. sh. drlg.
Signal Finance Co., No. 1 Hawthorne, Los Angeles Co.	10- 3-14	9,395	recmtd. 7,170
C. C. M. Oil Co., No. 18 Torrance, Los Angeles Co. ...	31- 3-14	4,535	P.B. 4,467
Fullerton Oil Co., No. 4 Torrance, Los Angeles Co. ...	18- 4-14	4,626	O.S. drlg.
Hunt Oil Co., No. 1 Torrance, Los Angeles Co.	18- 4-14	4,761	pump. water
Abram, John, & Associates, No. 1 Redondo, Los Angeles	18- 4-14	3,640	milling
McLaren & Associates, No. 1 Palos Verdes, Los Angel s	27- 4-14	3,992	redrlg. 1,375
So. Calif. Drlg. Co., No. 1 Palos Verdes, Los Angeles Co.	2- 5-14	1,472	dry; abd.
Shell Oil Co., No. 4 Rubel, Inglewood, Los Angeles Co.	8- 2-14	2,507	P.B. 1,255
Shell Oil Co., No. 89 Reyes, Dominguez, Los Angeles	33- 3-13	3,890	cmtd. 3,890
Shell Oil Co., No. 90 Reyes, Dominguez, Los Angeles	33- 3-13	3,930	sd. sh. drlg.
Shell Oil Co., No. 2 Manuel, Dominguez, Los Angeles	33- 3-13	4,300	cmtd. 4,262
Union Oil, No. 48 Callender, Dominguez, Los Angeles	33- 3-13	6,667	sd. sh. drlg.
Union Oil, No. 50 Callender, Dominguez, Los Angeles	33- 3-13	9,050	sd. sh. drlg.
Union Oil, No. 53 Callender, Dominguez, Los Angeles	33- 3-13	3,887	sd. sh. drlg.
Union Oil, No. 9 Carson, Dominguez, Los Angeles Co.	33- 3-13	4,850	sd. sh. drlg.
Barnadall Oil Co., No. 10 Rosecrans, Los Angeles Co.	20- 3-13	7,419	O.S. drlg.
Shell Oil Co., No. 1 Rosecrans, Los Angeles Co.	20- 3-13	7,315	sd. sh. drlg.
Hildon Oil Co., No. 1 Flood Control, Los Angeles Co.	11- 4-13	6,043	sd. sh. drlg.
Sharby Oil Co., No. 1 Playa Del Rey, Los Angeles Co.	22- 2-15	7,406	idle
Union Oil Co., No. 16 D.R., Playa Del Rey, Los Angeles	27- 2-15	4,771	sd. sh. drlg.
Barnadall Oil Co., No. 1 Newhall, Los Angeles Co. ...	26- 3-17	6,276	testing
Selegna Oil Co., No. 3 Wilmington, Los Angeles Co. ..	28- 4-13	280	sd. sh. drlg.
General Pet. Corp., No. 3 Wilmington, Los Angeles Co.	4- 5-13	3,629	flow, 2,020 b.d.
Getty Oil Co., No. 2 Wilmington, Los Angeles Co. ...	33- 4-13	2,941	sd. sh. drlg.
Burnoel Pet. Co., No. 1 Wilmington, Los Angeles Co.	28- 4-13	950	sd. sh. drlg.
Bankline Oil Co., No. 22 Wilmington, Los Angeles Co.	33- 4-13	3,341	flow, 240 b.d.
Sovereign Oil Co., No. 3 Wilmington, Los Angeles Co.	33- 4-13	3,080	sd. sh. drlg.
Pacific Western Oil, No. 1 Wilmington, Los Angeles	33- 4-13	2,680	sd. sh. drlg.
Royalty Service, No. 2 Wilmington, Los Angeles Co.	33- 4-13	3,550	flow, 300 b.d.
Royalty Service, No. 2-C Wilmington, Los Angeles Co.	33- 4-13	1,510	sd. sh. drlg.
Drillers, Inc., No. 1 Whittier, Los Angeles Co.	22- 2-11	770	sd. sh. drlg.
Honolulu Oil Corp., No. 1 Puente, Los Angeles Co. ...	15- 2-10	2,542	gr. sd. drlg.
Richfield Oil, No. 2 Nutt, Montebello, Los Angeles	5- 2-11	6,485	cleaning out
Richfield Oil, No. 1 Estrada, Montebello, Los Angeles	5- 2-11	3,143	P.B. 3,092
Texas Co., No. 16 Baldwin, Montebello, Los Angeles	6- 2-11	1,520	sd. sh. drlg.
Union Oil Co., No. 26 Montebello, Los Angeles Co. ...	1- 2-12	2,260	sd. sh. drlg.
Hobbs Pet. Corp., No. 1 Long Beach, Los Angeles Co.	29- 4-12	2,994	recmtd. 2,920
Clayton, G. L., No. 1 Long Beach, Los Angeles Co. ..	32- 3-12	2,420	idle
Hathaway, No. 2 Fulton, Santa Fe Springs, Los Angeles	6- 3-11	4,650	fishing
Union Oil Co., No. 100 Santa Fe Springs, Los Angeles	6- 3-11	9,230	sd. sh. drlg.
General Pet., No. 43-C Santa Fe Springs, Los Angeles	5- 3-11	3,780	pump. 420 b.d.
Julian & Criswell, No. 1 Walnut, Los Angeles Co. ...	5- 2-9	1,350	cleaning out
Terry, George, No. 2 Crane, Huntington, Orange Co.	2- 6-11	3,958	pump. 120 b.d.
Petroleum Co., No. 5 Wilson, Huntington, Orange Co.	2- 6-11	2,960	sd. sh. drlg.
Re-Mine Oil Co., No. 2 Huntington, Orange Co.	2- 6-11	3,361	sd. sh. drlg.
Texas Co., No. 4 V.M., Huntington, Orange Co.	34- 5-11	4,637	cmtd. 4,531
Richrow Oil Co., No. 1 Huntington, Orange Co.	34- 5-11	4,501	abd.
Richrow Oil Co., No. 2 Huntington, Orange Co.	34- 5-11	1,840	sd. sh. drlg.
Orco Oil Co., No. 5 Huntington, Orange Co.	2- 6-11	3,886	sd. sh. drlg.
South Basin Oil Co., No. 94 Huntington, Orange Co.	2- 6-11	4,060	cmtd. 3,845
Elliott Oil Co., No. 1 Huntington, Orange Co.	34- 5-11	4,066	P.B. 4,002
M. F. K. Oil Co., No. 1 Huntington, Orange Co.	2- 6-11	3,306	P.B. 2,856
Richfield Oil Co., No. 10 Fidelity, Huntington, Orange	34- 5-11	3,960	pump. 110 b.d.
Richfield Oil, No. 1 Community, Huntington, Orange	34- 5-11	3,740	sd. sh. drlg.
Richfield Oil, No. 1 Crowell, Huntington, Orange Co.	34- 5-11	3,986	pump. 50 b.d.
Commander Oil Co., No. 1 Newport, Orange Co.	29- 6-10	5,498	br. sh. drlg.
Standard Oil Co., No. 62 Emery, West Coyote, Orange	13- 3-11	3,360	sd. sh. drlg.
Bandini Pet. Co., No. 1 East Coyote, Orange Co.	17- 3-9	1,920	sd. sh. drlg.
Dollcia Oil Co., No. 2 East Coyote, Orange Co.	24- 3-10	1,281	sd. sh. drlg.
Wilbur, V. R. G., No. 1 East Coyote, Orange Co. ...	20- 3-9	3,095	dry; abd.
Graham & Loftus, No. 1 East Coyote, Orange Co.	18- 3-9	4,326	pump. 50 b.d.
Bartholomae Oil Co., No. 3 East Coyote, Orange Co...	22- 3-10	5,097	cmtd. 5,079
Shell Oil Co., No. 1 Mathis, Anaheim, Orange Co. ...	23- 4-10	1,781	sd. sh. drlg.
West Coast Ref. Co., No. 1 Santa Ana, Orange Co. ...	25- 3-9	3,276	hd. sd. drlg.
Joseph, Arthur, No. 1 Richfield, Orange Co.	29- 3-9	510	sd. sh. drlg.
Bachman Pet. Co., No. 1 Richfield, Orange Co.	29- 3-9	3,810	sd. sh. drlg.
Union Oil Co., No. 29 Chapman, Richfield, Orange Co.	30- 3-9	8,610	redrlg. 7,000
Union Oil Co., No. 41 Chapman, Richfield, Orange Co.	29- 3-9	3,604	pump. 100 b.d.
Union Oil Co., No. 42 Chapman, Richfield, Orange Co.	29- 3-9	3,650	pump. 230 b.d.
Union Oil Co., No. 43 Chapman, Richfield, Orange Co.	29- 3-9	1,330	sd. sh. drlg.
Union Oil Co., No. 44 Chapman, Richfield, Orange Co.	29- 3-9	121	sd. sh. drlg.
Standard Oil Co., No. 2-24 Kraemer, Richfield, Orange	32- 3-9	4,598	sd. sh. drlg
Equitable Pet. Co., No. 1 Wildcat, San Bernardino Co.	11-10-5	2,815	hd. sd. drlg.

KANSAS

Week Ending February 13 (Descriptions are East unless marked otherwise)

Barton County

John Burton No. 1 Wendel, NE cor. sec. 13-19-11w. Anhy. 785 ft.; S.D. 2,856 ft.

C. L. Carlock et al No. 1 Leibel, SE NE SE sec. 18-18-11w. Rig.

Duwe & Brouk No. 1 Baker, NE SE SW sec. 16-17-13w. Fsg. 2,915 ft.

Pierson et al No. 1 Hart, SW SW NE sec. 9-20-13w. Loc.

Hendon Drlg. Co. and Morgan & Flynn No. 1 Robenseifer, C NW sec. 7-18-15w. Spudded and S.D.

Indian Terr. Illm. Oil Co. No. 1 Schrapel, SE SE NE sec. 26-20-11w. Set 8-in. 2,494 ft.; H.F.W. 2,605-10 ft.; U.R. 8-in.

S. L. Parks No. 1 Peach, SE cor. sec. 34-16-14w. Drlg. 395 ft.

C. L. Price et al No. 1 Kraft, SW NW NE sec. 10-17-11w. R.U.

Stanolind O. & G. Co. No. 2 Burmeister, NE NE SW sec. 33-19-11w. Cong. 3,315 ft.; Sil. 3,324 ft.; R.U.S.T. 3,332 ft.; some saturation.

Ralph Wixson and Union O. & G. Co. No. 1 Frederick, NW cor. sec. 12-16-13w. Cellar.

Butler County

Cox & McGinnis No. 1 Faulders, SW SW NE sec. 27-25-3e. S.O. 2,779-81 ft.; H.F.W. 2,800 ft.; drlg. 2,845 ft.

Chase County

Propp et al No. 1 Fromm, SE cor. sec. 29-18-9e. Fsg. 2,440 ft.

Chautauqua County

Broslus et al No. 1 Morris, SW NW SW sec. 6-32-12. Chat 1,795 ft.; H.F.W. 1,-828 ft.; drlg. 1,925 ft.

Cowley County

C. H. Cross No. 1 Cook, SW cor. sec. 6-32-6. Bartlesville 2,952 ft.; Miss. 3,074 ft.; T.D. 3,081 ft.; D.&A.

W. M. McKnabb No. 1 Community, C NE NW sec. 14-34-3e. O.W.D.D.; fsg. 2,886 ft.

W. M. McKnabb No. 1 Weidschmidt, SW SW NW sec. 18-34-6e. Sd. 1,578 ft.; first gas 1,580 ft.; est. 8,000,000 ft.; drlg. 1,-630 ft.

Simpson Oil Co. and Stanolind O. & G. Co. No. 1 Weigle, SW SW NE sec. 18-31-6. L. 2,922 ft.; T.D. 2,995 ft.; D.&A.

Earl Wakefield et al No. 1 Knapp, SW SW NW sec. 2-34-5e. Drlg. 2,460 ft.

L. H. Wentz and Amerada Pet. Corp. No. 1 Rush, NW SW SW sec. 36-34-6e. Rig.

Decatur County

Winkler & Koch No. 1 Vessey, C NW SE sec. 26-3-26w. Drilled plug, bailed down no shows; 380 ft. W.I.H. in 9 hrs.; drlg. 3,200 ft.

Edwards County

Stanolind O. & G. Co. et al No. 1 Donovan, C SE SE sec. 14-26-18w. Simpson 4,790 ft.; Sil. 4,872 ft.; drlg. 4,959 ft.

Ellis County

Empire O. & R. Co. No. 1 Hall, SE cor. sec. 2-12-17w. Anhy. 1,300 ft.; drlg. 2,-100 ft.

Ted Kors et al No. 1 Koblitz, SE SW NW sec. 23-12-18w. Pay 3,694-98 ft.; swb. 48 B.O. and swbd. down; T.D. 3,699 ft.; small increase.

Lario O. & G. Co. et al No. 1 Cress, NE cor. sec. 13-11-17w. Whipstock 2,670 ft.; drlg. by at 2,775 ft.

Mazda Oil Co. No. 1 Henderson, SW SW NE sec. 27-11-18w. Loc.

Murphy Oil Co. No. 1 Wiesner, SE SE SW sec. 12-14-19w. Anhy. 1,440 ft.; drlg. 2,667 ft.

Noble Pet. Corp. No. 1 O'Laughlin, NW NW SE sec. 13-12-19w. M.I.M.

Sunray Oil Co. No. 1 Befort, NE cor. sec. 11-14-20w. Anhy. 1,530 ft.; drlg. 2,570 ft.

Earl Wakefield No. 1 Putnam Mortgage Co., SE SE NW sec. 32-15-17w. Loc.

Winkler & Koch No. 1 Jensen, SW SW NE sec. 3-13-18w. S.D. 80 ft.

Finney County

Keith & Olson Drlg. Co. No. 1 Ely, NW NW SW sec. 34-22-29w. R.U.R.

Grant County

Columbian Fuel Co. No. 1 Gray, C SE sec. 3-29-35w. Drlg. 1,520 ft.

Greenwood County

Hollis et al No. 1 Boone, NW NE NE SW sec. 21-26-12. S.D. 1,130 ft.

Ohio Oil Co. No. 1 Schwab, SE SW SE sec. 9-24-10. K.C. 1,657 ft.; S.O. 1,659-66 ft.; drlg. 1,970 ft.

Harper County

Carter Oil Co. et al No. 1 Seihart Est., C SW NW sec. 4-34-8w. Loc.

Harvey County

Harburney Oil Co. No. 1 Schrag, NW NW SE sec. 24-22-3w. H.F.W. 3,545-50 ft.; Fsg. 3,650 ft.

Kearney County

J. L. Murphy No. 1 Campbell, NW NW SW sec. 32-25-35w. Anhy. 1,900 ft.; set 7-in. csg. at 2,780 ft.

Kingman County

Shell Pet. Corp. No. 1 McMichael, C W½ W½ SW sec. 12-27-10w. Chat 4,037 ft.; drlg. 4,100 ft.

Lane County

K. C. Bates No. 1 Bates-Nimocks, C NW NE sec. 16-16-28w. S.O. 3,870-80 ft.; K.C. 3,980 ft.; S.O. 4,050-55 ft.; S.O. 4,098-4,100 ft., 4,125-30 and 4,340-43 ft.; Cong. 4,460 ft.; drlg. 4,469 ft.

Logan County

Rose Spring Drlg. Co. et al No. 1 Wright, C SE SE sec. 12-15-35w. Anhy. 2,330 ft.; Ft. Riley 2,868 ft.; T.D. 3,909 ft.; to skid rig.

Lyon County

Young et al No. 1-A Murphy, SE NW NE sec. 32-21-11. Fsg. 1,380 ft.

McPherson County

Hutchinson O. & G. Co. et al No. 1 Berg, SW SW SE sec. 15-20-3w. Drlg. 520 ft.

Smith et al No. 1 Larson, NW NW SW sec. 35-18-5w. M.I.M.

Wamhoff et al No. 1 Nuse, SE NE SW sec. 18-18-4w. M.I.M.

Meade County

Pacific Midwest Co. No. 1 Rexford, NE SE SW sec. 8-30-29w. R.U.

Mitchell County

Geo. Siedhoff et al No. 1 Greiss, SW SW SE sec. 16-8-10w. S.D. 2,200 ft.

Ness County

Newton Dev. Co. No. 1 Tenny, NW NW SE sec. 19-18-25w. Topeka 3,524 ft.; H. F.W. 3,568 ft.; U.R. 8-in. csg. at 3,-587 ft.

Pratt County

H. V. Elwell et al No. 1 Fay, NW NW SE sec. 15-27-14w. Whipstock 2,580 ft.; S.D.

Reno County

Atlantic Ref. Co. No. 1 Page, SE NW NW sec. 19-23-7w. Rig.

Carlock et al No. 1 Brown Royalty Co. NW NW NE sec. 32-22-10w. Drlg. 2,771 ft.

Foraker et al No. 1 Hiett, SE SW NE sec. 34-24-4w. S.D. 3,848 ft.

Helmerick & Payne No. 1 Benson, NE cor. sec. 5-25-6w. Drlg. 2,980 ft.

Helmerich & Payne et al No. 1 Evans, NE NE SE sec. 29-24-6w. Rotary rig.

Helmerich & Payne No. 1 Stewart, SE SE NE sec. 16-24-6w. Viola 4,062 ft.; Simpson 4,131 ft.; Sil. 4,197 ft.; T.D. 4,245 ft.; D.&A.

Clyde Pulse No. 1 Payne, SW NW NE sec. 4-22-7w. Drlg. 2,955 ft.

Rice County

Buckley No. 1 Bailey, SW SW NW sec. 19-20-6w. S.D. 1,000 ft.

Carlock et al No. 1 Deweese, SW NW NW sec. 32-20-7w. S.D. 3,675 ft.

Continental Oil Co. et al No. 1 Michekla, NE NE SW sec. 12-18-8w. Rig.

L. E. Douglass No. 1 Coyne, NE SE SE sec. 24-21-8w. Rig.

Dickey Oil Co. No. 1 Brothers, SE cor. sec. 1-21-7w. O.W.D.D.; R.U.

Empire O. & R. Co. No. 1 Banterton, SE SW SE sec. 11-18-8w. Sil. 3,219 ft.; R.U. S.T. 3,222 ft.

Hanna et al No. 1 Brothers, SE SE NW sec. 25-20-8w. Drlg. 1,430 ft.

John Hanna et al No. 1 Fulton, NW NW NE sec. 24-19-6w. M.I.M.

T. C. Johnson No. 1 Shubert, SW cor. sec. 9-20-10w. R.U.

Manning & Martin et al No. 1 Mathes, SE SW NE sec. 27-21-8w. M.I.M.

Union Oil & Refining Co. et al No. 1 Baker, SW, SW NE sec. 33-20-6w. M.I.M.

W. E. Witt et al No. 1 Fair, NW SE SE sec. 4-22-8w. Rig.

Rooks County

Basin Oil Co. No. 1 Baxa, NE cor. sec. 23-9-17w. S.D. 2,000 ft.

Buckner & Schoff No. 1 McConnel, NE cor. sec. 34-6s-18w. S.D. 2,645 ft.

Graham et al No. 1 Fike, SW cor. sec. 9-9-17w. T.D. 3,296 ft.; swb. 75 B.O. and swb. down; per. liner; pumped 51 B.O. in 5 hrs. and pumped down; will acidize.

Jones Bros. No. 1 Wiss, NW cor. sec. 9-10-18w. Spudded.

J. H. Lester No. 1 Methene, SE SE NE sec. 29-10-20w. Fsg. 3,422 ft.

Snowden & McSweeney No. 1 Hindman, C E½ NW sec. 35-7s-17w. K.C. 3,023 ft.; T.D. 3,101 ft.; acidized; no test.

Rush County

S. A. Murphy et al No. 1 Roth, NW NW SW sec. 21-16-18w. Rig.

Russell County

El Dorado Refining Co. No. 1 Scott, NW NW NE sec. 17-13-13w. Drlg. 3,505 ft.

Empire O. & R. Co. No. 1 Vaughn, SW cor. sec. 17-14-14w. Anhy. 835 ft.; drlg. 1,525 ft.

Equity Gas Co. No. 1 Harbaugh, NW NE SW sec. 19-13-12w. Set 10-in. csg. 780 ft. W.O.C.

Getty, Inc., No. 1 Baxter, SE SE NE sec. 8-15-15w. Anhy. 892 ft.; drlg. 2,665 ft.

Shields et al No. 1 Gross, NW NW SE sec. 5-15-13w. Loc.

Saline County

Ryan Consd. No. 1 Wuerth, SW SW NW sec. 28-14-2w. Fsg. 1,870 ft.

Sedgwick County

Cameron et al No. 1 Smith, SW SE SE sec. 13-27-2e. Drlg. 1,135 ft.

E. M. Swearer et al No. 1 Thome, SW SW NW sec. 19-28-1w. M.I.M.

Scott County

C. R. Blackman et al No. 1 Nolan, NW NW NE sec. 13-19-33w. Loc.

Stafford County

Empire Ref. Co. et al No. 1 Jordon, SW SW NW sec. 15-25-14w. Simp. 4,210 ft.; Sil. 4,252 ft.; T.D. 4,267 ft.; sulfur wtr.; P.B. 3,943 ft.; W.O.C.

Empire O. & R. Co. No. 1 O'Connor, NE cor. sec. 17-24-15w. K.C. 3,653 ft.; drlg. 3,822 ft.

J. E. Trigg and Vernon Oil & Gas Co. No. 1 Andrea, SE cor. sec. 4-23-12w. Cellar.

Sumner County

Empire O. & R. Co. No. 1 Hoffman, NW NW SW sec. 27-34-1e. Simpson 4,077 ft.; set 5-in. csg. 4,079 ft.; W.O.C.

Graham et al No. 1 Dawson, NW NW NW sec. 4-33-2w. Fsg. 3,755 ft.

Hapenny & Green et al No. 1 Evers, SE SE NE sec. 27-31-2. S.D. 519 ft.

Olson Drlg. Co. et al No. 1 Barr, SE cor. sec. 8-34-2w. B.R.R.

Orcott & Stewart No. 1 Newten, SE cor. sec. 21-30-2. O.W.W.D.; S.D. 930 ft.

E. B. Shawver et al No. 1 Bryan, C W½ W½ SW sec. 36-30-2w. B.R.R.

LEGAL

Department of the Interior, U. S. Land Office, Las Cruces, New Mexico. Notice is hereby given that the SE¼ NW¼ Sec. 24, T. 17 S., R. 29 E., forty acres, in the Grayburg Oil and Gas Field, and the E½ E½, NW¼ NE¼, NE¼ NW¼, Sec. 25, N½ NE¼, S½ SW¼ and NW¼ SW¼ Sec. 26, T. 16 S., R. 31 E., N.M.P.M., 440 acres, in the Robinson Field, New Mexico, are offered to the responsible qualified bidder of the highest bonus per acre for lease under section 17 of the act of February 25, 1920 (41 Stat. 437), as amended by the act of August 21, 1935 (49 Stat. 674), at the royalty rate scale in the lease form shown in Circular 1386, at a sale to be held in the United States Land Office, Las Cruces, New Mexico, at 10 o'clock, February 23, 1937. The minimum bid which will be accepted is $25 per acre for the land in Sec. 24 and $1.25 per acre for the land in the Robinson Field. The land in each field will be offered as a single unit but both units may be included in one lease, the drilling, producing, rental and royalty provisions to apply separately to each unit. The successful bidder must deposit on the day of the sale a certified check on a solvent bank, or cash, for one-fifth of the amount of each bid and file the showing of qualifications to receive a lease required by section 7 of Circular 1386. The remainder of the bonus bid and the annual rental at the rate of $1 per acre must be paid prior to the issuance of the lease. The bidders are warned against violation of the provisions of section 59 of the United States Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. Register.

Lloyd, Study & Frost et al No. 1 fee, SE cor. sec. 31-34-1e. S.S.O. and G. 3,884-87 ft.; inc. 3,897-3,902 ft.; B. lime 3,919 ft.; Simp. 3,968-73 ft.; 2,500 ft. W.I.H.

C. H. Westfall et al No. 1 Rogers, SW NW SW sec. 35-31-2w. R.U.R.

Trego County

Central Commercial Oil Co. No. 1 Burkett, C SW sec. 15-11-22w. O.W.W.D.; 6-in. 3,919 ft.; C.O.

Black Gold Oil Co. No. 1 Allman, C SW SW sec. 34-14-21w. R.U.R.

Woodson County

Reamer No. 1 Corn, NE cor. sec. 31-26-15 Drlg. 1,738 ft.

OKLAHOMA

Week Ending February 13

NORTHERN OKLAHOMA

Beckham County

Carter Oil Co. No. 1 Garrett, NE cor. sec. 11-7n-25w. Loc.

Cleveland County

Helmerich & Payne, Inc. No. 1 Glenn, C NW NE sec. 6-8-1w. Sylvan 7,080 ft.; Viola 7,186 ft.; drlg. 7,285 ft.

W. R. Hollenbeck No. 1 Norman, NW NW NE sec. 17-9-2w. Rig.

Coal County

Continental Oil Co. No. 1 Breedlove, NW SW SW sec. 24-1-8. Wilcox 6,045 ft.; T.D. 6,047 ft.; to core.

Continental Oil Co. No. 1 King, NE SW NE sec. 26-1-8. Wilcox 5,743 ft.; T.D. 5,762½ ft.; 492 B.O. in 8½ hrs., pumped off; 442 B.O. in 6 hrs.; pumped off.

Continental Oil Co. No. 1 W. Kirby, SW SE SW sec. 23-1n-8e. Hunton 4,662 ft.; T.D. 4,690 ft.; S.D.

Buwoldt & Couch No. 1 McMillan, SW cor. sec. 10-1s-8. T.D. 1,150 ft.; S.D.

Creek County

J. E. Crosbie, Inc. & Sinclair Prairie Oil Co. No. 1 Bailey, NE NW NW sec. 28-15-7. Drlg. 895 ft.

H. W. Mosier et al No. 1 Holcomb, SE SW NW sec. 19-18-8. T.D. 2,870 ft.; S.D.

W. J. Sherry No. 1 Childers, SW SW NE sec. 2-15-7. R.U.S.T.

Garfield County

Arab Oil Co. No. 1 Harkendorf, NE cor. sec. 34-20-3w. R.U.R.

Garvin County

Mayes Drlg. Co. No. 1 Howell, NW SE NW sec. 34-1-1. R.U.R.

Hughes County

W. W. Bussett No. 1 Field, C NW SW sec. 11-9-11. S.D.

Carson Oil Co. No. 1 Lyter, NE NW SW sec. 31-8-12. Drlg. 3,000 ft.

Mid-Western Prod. Co. No. 1 Hill C SE NW sec. 13-9-9. Gilcrease 2,875 ft. (S.L. M.); T.D. 2,880 ft.; 21,200,000 ft. gas.

Southern Oil Co. No. 1 Buck, C NW SW SW sec. 21-8-10. R.U.S.T.

C. J. Wrightsman No. 1 Diamond, NE NE SE sec. 33-9-9. Second Cromwell 3,344 ft.; drillstem test failed; sand, 3,390-3,405 ft.; stain of oil; T.D. 3,475 ft.; fsg.

Kay County

G. A. Brown et al No. 1-A Harris, SW SW NE sec. 14-25-1e. S.D.

Ritz Oil & Gas Co. No. 1 State, NW NE SW sec. 16-29-2w. Drlg. 2,580 ft.

Kiowa County

Argus Pet. Co. No. 1 Osborne, NW cor. NE sec. 9-7-16w. T.D. 1,225 ft.; fsg.

McWhirter & Francis No. 1 Padgett, NE NE NW SE sec. 3-5-17w. S.D. 610 ft.

Latimer County

Cheyenne Oil Co. No. 1 Wilson, C SE SE sec. 15-5-18. T.D. 2,902 ft.; S.D.

Le Flore County

McCraw et al No. 1 Tidwell, C NW SE sec. 17-3-22. 10-in. 2,246 ft.; T.D. 2,340 ft.; S.D.

Lincoln County

Anderson-Prichard Oil Corp. No. 1 Colon, C N½ SE SW sec. 28-17-4e. Drlg. 2,-801 ft.

Okelly Oil Co. No. 1 Laughlin, C SE NW sec. 29-17-3e. T.D. 1,802 ft.; bailed dry; perf. csg.; wtr. intruded; comp. as wtr. disposal well.

Logan County

Anthony & Marshall No. 1 Fruin-Eckman, SE SE SW sec. 4-16-1e. C.O. iron at 1,959 ft.

Harry Blackstock No. 1 Prince, SE NE SW sec. 11-17-3w. Drlg. 3,445 ft.

Helmerich & Payne et al No. 1 Hasler, NW NW SE sec. 14-16-4w. Cd. from 6,511 ft.; second Wilcox 6,548 ft.; T.D. 6,575 ft.; temp. abd.

Muskogee County

A. D. Spears et al No. 1 Robbins, NW cor. sec. 20-15-20. Turkey Mt. sd. 1,677-84 ft.; Arbuckle 1,710 ft.; T.D. 1,811 ft.; S.S.O.; S.D.

Okfuskee County

Harvey Oil Co. No. 1 Stewart, NE cor. sec. 28-10-9. Set 10-in. csg. at 61 ft.; S.D.

Osage County

Nebia Oil Co. No. 1 Osage, NE NE SW sec. 13-23-6. Drlg. 438 ft.

Pawnee County

Forest Dev. Corp. No. 1 Greisel, C NW NE sec. 21-21-5. Drlg. 1,875 ft.

Forest Dev. Corp. No. 1 Markham, SW NE SE sec. 10-21-5e. Pits.

Pittsburg County

Okla. Dist. Oil Co. No. 1 Beeler, NE NE NW sec. 7-7-14. Wapanucka 4,490 ft.; drlg. 4,675 ft.

Pontotoc County

Caloma Oil Corp. No. 1 Brentz, SE NE SW sec. 4-1-6. S.D. 503 ft.

E. H. Moore et al No. 1 Muse, SW NE SE sec. 33-2n-7. Mayes 3,600 ft.; Woodford 3,655 ft.; drlg. 3,780 ft.

Ramsey Pet. Co. No. 1 Johnson, NW SW SE sec. 9-3-7. T.D. 2,845 ft.; P.B. 1,200 ft.; shot; est. 1,000,000 ft. gas; comp.

L. K. Sandback et al No. 1 Whittaker, NW NE SE sec. 31-4-6. Cellar.

Pottawatomie County

Champlin Ref. Co. No. 1 Buckler, SE NE NE sec. 7-6n-4e. Cellar and pits.

Mid-Continent Pet. Corp. No. 1 Logan, NE NE SE sec. 31-11-5. Shot off drill pipe at 3,252 ft.; P.B. 3,194 ft.; set whipstock, 3,256 ft.; ran Eastman survey.

B. H. Rowlett et al No. 1 Burson, SW SW NE sec. 21-9-4e. Loc.

Pushmataha County

Erle Halliburton et al No. 1 Bagwell, SW NE NE sec. 30-3s-15e. R.U.R.

Seminole County

Carter Oil Co. et al No. 1 Simpson, SW SW NE sec. 7-8-8. Syl. 4,335 ft.; Viola 4,410 ft.; Dense 4,445 ft.; Dol. 4,450 ft.; first Wilcox 4,472 ft.; second Wilcox 4,-490 ft.; T.D. 4,505 ft.; P.B.

J. H. Hudson et al No. 1 Tanyan, SE SE SW sec. 32-10-7. Cellar and pits.

R. M. Purcell No. 1 Gilliland, SE SE SW sec. 24-11-7. Loc.

Sinclair Prairie Oil Co. No. 1 Rossanna, NW NW SW sec. 28-10-8. R.U.R.

Papoose Oil Co. No. 1 Yarber, SW SW NW sec. 15-11-8. Bldg. rig.

A. I. Spears No. 1 Keaton, NW cor. sec. 6-5-8. Rig.

Paul Traugh No. 1 Williams, NE SE NE sec. 22-6-6. Senora 2,347 ft.; T.D. 2,361 ft.; P. 75 B.O. and 15 B.W. in 24 hrs.; P.B. 2,360 ft.; W.O.C.

Texas County

Allison & Barnhill No. 1 Bingley, SE SE NE sec. 30-2n-18. (Cimmaron Meridian) T.D. 2,919 ft.; P.B. to 2,750 ft.; shot; est. 5,000,000 ft. gas; S.I.

Cabot Carbon Co. No. 1 Castro, C NE sec. 19-3n-17ecm. Loc.

Missouri Valley Gas Corp. No. 1 well, C sec. 17-6n-14ecm. Loc.

Washita County

L. P. McWhirter No. 1 fee, SW cor. sec. 34-8-19w. T.D. 1,754 ft. S.D.

SOUTHERN OKLAHOMA

Atoka County

A. J. Sanders No. 3 Redden, SE SW SW sec. 19-1n-15e. T.D. 1,260 ft.; S.D.

Carter County

Lyle-Wham Dev. Co. No. 1 Jackson, NE SW SW sec. 26-5s-1e. Sands 360-404 ft., 425-35 ft; best S.O. 390-96 ft.; T.D. 472 ft.; fsg.

Choctaw County

Cooper & Branstetter No. 1 Bell, C NW NE sec. 29-6s-17. Drlg. 1,187 ft.

Comanche County

Frank Scott No. 1-A Kuntz, SE NE SE sec. 21-4-11w. Woodford 896 ft.; Hunton 1,752 ft.; drlg. 2,080 ft.

C. V. Morris No. 1 Young, SE NE SE sec. 24-3n-10w. Top sd. 822 ft.; S.O.; U.R. at 657 ft.

L. D. Wise No. 1 Cones, SE SE SW sec. 11-1n-10w. T.D. 2,156 ft.; S.D.

Cotton County

Phillips Pet. Co. No. 1 Moore, SW SW NE sec. 6-5s-12w. Drlg.

Phillips Pet. Co. No. 1 Warren, C NE NE SE sec. 1-5s-13w. T.D. 3,404 ft.; chemical test failed; D.&A.

Harmon County

Lloalko Trust, Ltd. No. 1 Crosnoe, SE SE SW sec. 14-3n-25w. T.D. 2,980 ft.; rigging rotary tools to deepen; new contract to 3,500 ft.

Jefferson County

Buffalo Oil Co. No. 1 Crownover, SE SE NW sec. 21-6s-6w. Drlg. 968 ft.

Massad & Swansberger No. 1 Barrett, NE cor. SE SE sec. 14-6s-6w. Drlg. 1,450 ft.

Johnston County

Patton et al No. 1 McCrummens, SW SW NE sec. 16-1s-6e. T.D. 857 ft.; S.D. for fuel.

Love County

Amerada Pet. Corp. No. 1-A Westheimer & Daube, SW SE SW sec. 27-6s-2e. T.D 7,363 ft.; P.B. 2,970 ft.; perforated csg at 1,539-99 ft. and 2,095-2,115 ft.; cmtd perf.; flwd. 22 bbls. in 24 hrs. and "went dead"; S.D.O. Aug. 4.

W. H. Riddle et al No. 1 Johnson, C SW SE cor. sec. 20-8s-2w. T.D. 4,009 ft., waiting for tools; will deepen.

Sinclair Prairie Oil Co. No. 1 Stockton, SE SE SW sec. 26-6s-2w. T.D. 8,583 ft. P.B. 6,927 ft.; cmtg. off wtr. 5,817-35 ft.

Marshall County

Stuart & Taylor No. 1 Chestnut, NE cor. Arbuckle 885-90 ft.; S.O. and G.; U.R. 5 3/16-in. csg.

Murray County

Power Oil Co. et al No. 1 Lancaster Trust, C SW NE sec. 10-1s-2e. T.D. 3,203 ft.; R.U.R.

J. Ben Russell No. 1 fee, SE SE NW sec. 9-2s-3e. T.D. 1,012 ft.; U.R. 8-in. csg.

Stephens County

Angle & Angle No. 1 Irvine, SW SW NE sec. 24-1n-7w. Loc.

William Angle No. 1 Posey, C NW NW sec. 8-1n-8w. R.U.R.

Carter Oil Co. No. 1 Harley, C NE NE sec. 24-2s-4w. Sd. 610-40 ft.; S.O.; sands 770-80 ft. and 830-40 ft.; reaming hole to set 13⅜-in. csg.

Jack Cohen No. 1 Pierce, NE NE NW sec. 24-2s-6w. T.D. 400 ft.; S.D. for fuel.

Coline Oil Co. No. 1 Johnson, SW SE NE NE sec. 1-2n-8w. T.D. 6,500 ft.; S.D.O.

H. J. Edwards No. 1 Frederick, SW cor. NE SE NW sec. 31-2n-8w. T.D. 2,800 ft.; S.D.

Helmerich & Payne No. 1 Graham, SW SW NE sec. 12-1n-5w. Bldg. drk.

Ed Parson No. 1 Olson, C SW SW sec. 21-2-8w. Tstd. mud, wtr. and S.O.; sd., odor oil and gas 6,856 ft.; T.D. 7,002 ft.; S.D.

Tillman County

Indian Terr. Ill. Oil Co. No. 1 Hatler, C SW NE sec. 32-2s-17w. T.D. 5,169 ft.; P.B. to 4,525 ft.; swb. 8 B.D., 5 B.O. and 4 B.O. per hr. on successive days; est. 100 B.O. per day; no wtr.; R.U. to pump.

Lynn Oliver No. 1 Rilling, SE SE NW sec. 22-1s-15w. Granite Wash 1,275-78 S.O.; T.D. 1,317 ft.; C.O.

Shirley Clum et al No. 1 Moricle, NW NW SE sec. 16-4s-14w. T.D. 2,775 ft.; S.D.

ARKANSAS

Clark County

Pat Carlin et al No. 1 Bierne, NE SE NE sec. 22-10s-12w. M.I.M.

John G. Wooten No. 1 Z. T. Sparkman, sec. 1-11-20. 7-in. cmtd. 560 ft.; arg. test.

Cleveland County

J. R. Lockhart No. 1 Ida Robertson, SE sec. 36-10-11w. T.D. 3,218 ft., washing to bottom prep D.D.

Grant County

Wallace & Staples No. 1 W. F. Davis, SE SE NW sec. 23-6-15. Fsg. D.P. 2,580 ft.

Hempstead County

Birdwell et al No. 1 Duckett, SW NW SW sec. 24-13-24. S.D. 125 ft.

Root Pet. Co. No. 1 D. F. Jones, 330 ft. S and W. NE SW NE sec. 16-13-23. Cg. 4,060 ft.

Root Pet. Co. No. 1 Lucey, E. Drake, SE SE NW sec. 24-14s-24w. R.U.R.

Shephert & Todd et al No. 1 Smith, NW SW SE sec. 11-11-25. R.U.

Little River County

Roberts et al No. 1 Hall, sec. 22-13-29. T.D. 2,100 ft.; abd.

M. E. Sanderson No. 1 Pinning, sec. 6-13-30. S.D. 500 ft.

Joe Strahan No. 1 Dierks, SW SE sec. 21-12-28. Drlg. 1,520 ft.

Miller County

River Levy Oil Co. No. 1 Dean, NW SE sec. 24-15-26. Tstd. S.W.; plug and abnd.; T.D. 4,500 ft.

Nevada County

Benedum & Trees No. 1 Block, NE NE SE sec. 9-14-20. Hole clean; prep. D.D.; T.D. 3,683 ft.

Benedum & Trees No. 2 C. C. Fincher, SW SW NE sec. 10-14-20. T.D. 1,260 ft.; W.O.S.R.

Benedum & Trees No. 4 C. C. Fincher, SE SW NE sec. 10-14-20.

Benedum & Trees No. 4 Grove, SE SW NW sec. 10-14-20. Drk.

Benedum & Trees No. 5 Grove, NE SW NW sec. 10-14-20. T.D. 2,138 ft.; W.O.S.R.

Benedum & Trees No. 6 Grove, SW NE NW sec. 10-14-20. Drlg. cmt. plug; T.D. 1,-245 ft.

Benedum & Trees No. 7 Grove, NW SW NW sec. 10-14-20. Drk.

Benedum & Trees No. 8 Grove, SW SW NW sec. 10-14-20. Drk.

Benedum & Trees No. 9 Grove, NE NE SW sec. 10-14-20. Drk.

Benedum & Trees No. 1 Mary Jackson, NE NW NE sec. 9-14-20. Loc.

Berry Asphalt Co. No. 1 J. Haynie, NE NE SE sec. 6-14-20. Loc.

J. C. Buckbee No. 1 Wortham, SW SW NW sec. 29-13-21. T.D. 2,340 ft.; T.A.

John R. Lewis No. 1 W. Haynie, SW SW NE sec. 5-14-20. Est. 15,000,000 ft. gas; 200 bbls. oil; S.D. 1,169 ft.; W.O.

W. E. Stewart No. 1 Mendenhall, cen. SE NW NE sec. 1-14-20. 10-in. cmt. 104 ft.; S.D.

Steel & Warmack No. 1 Wm. Haynil SE SE NW sec. 6-14-21. T.D. 1,183 ft.; W.O.S.R.

Ouachita County

Lion Oil Co. No. 1 Blanch Levey, C W½ SW NW sec. 21-15-15. Drlg. 4,255 ft.

Phillips Pet. Co. No. 1 W. Rose, SW NE sec. 27-15-15. Comp.; flw. 2,000,000 gas 20 bbls. oil; T.D. 4,961 ft.; P.B. 4,852 ft.

J. D. Reynolds No. 2 P. C. Grayson, Lot 4, Blk. 10, Stephens Sur., sec. 21-15-19. Pumping S.W.; T.D. 1,508 ft.

Pope County

Arkansas-La. No. 1 Smith, sec. 10-8n-21w. Drlg. 4,472 ft.

Sevier County

C. J. Benkley No. 1 Luther Tabler, NW NE SE sec. 14-10s-29w. Drk.

Union County

Dietrich et al No. 1 Aaronson, NE SW NE sec. 3-18-16. R.U. and W.O.

Lion Oil No. 1 Morgan, sec. 18-18-17. O.W. D.D. (Formerly Phillips Pet. Co.) M.I. M. to D.D.

Penn-Ark. Corp No. 1 W. N. Raulston 330 ft. S and E. NW NW SE sec. 12-17-14. Cg. 2,971 ft.

S. H. A. Oil Corp. No. 1 H. D. Warren, NE SW SW sec. 10-17-14. Drlg. out cmt. 3,342 ft. and W.O.S.R.; T.D. 3,342 ft.

LOUISIANA

NORTH LOUISIANA PROVEN

Caddo-Rodessa

J. W. Anson No. 1 N. S. Spearman, NW SE sec. 14-23-15. Drlg. 2,566 ft.

J. Edw. Jones No. 1-B Sharp, 297 ft. N. 151 ft. W, C sec. 4-23-16. Drlg. 5,246 ft.

Lyons & Neely No. 1 Noel, SE cor. sec. 8-23-15. Drlg. 4,850 ft.

Lyons & Neely No. 2 Noel, SW SE SE sec. 8-23-15. Drlg. 1,521 ft.

Magnolia Pet. Co. No. 11-A Caddo Lvy. Bd., SW cor. sec. 21-23-16. Drlg. 2,138 ft

Magnolia Pet. Co. No. 12-A Caddo Lvy. Bd, SE cor. sec. 21-23-16. T.D. 5,980 ft.; 7-in. 5,967 ft.; W.O.C.S.

Magnolia Pet. Co. No. 7 Foscue, NE cor. sec. 22-23-16. Comp.; flw. 8 B.P.H.; T.D. 6,003 ft.

R. W. Norton No. 1 L. C. Harden, NE sec. 20-23-16. Loc.

R. W. Norton No. 1 Payne, C SE SE sec. 27-23-16. Cg. 8,007 ft.

R. W. Norton No. 3 Starke, 660 S and W C sec. 16-23-16. Drlg. 3,751 ft.

Standard Oil of La. No. 1 Arimstead Comm., SW SW SE sec. 4-23-16. Bldg. road.

Standard Oil of La. No. 2 Armistead Comm., SE SE SW sec. 4-23-16. M.I.M.

Standard Oil No. 2 J. R. Harden, NE NW NE sec. 16-23-16. Drlg. 2,942 ft.

Standard of La. No. 1 Emma J. Parker, NE SE NW sec. 9-23-16. Drlg. 3,940 ft.

United Gas No. 1-A Mitchell, 656 ft. N and W, SE cor. sec. 17-23-16. Loc.

United Gas Co. No. 4 W. M. Mitchell, NW cor. sec. 20-23-16. Drlg. 1,985 ft.

United Gas Co. No. 27 Rodessa O. & L. Co., NE NW sec. 15-23-16. Drlg. 4,165 ft.

United Gas No. 1 Stephens, 655 ft. S and W, NE sec. 20-23-16. 7-in. cmt. 5,968 ft.; W.O.C.S.

N. LOUISIANA WILDCATS

Bienville Parish

Lide & Greer No. 1 Smelley, 220 ft. N, 160 ft. W, SE SW NE sec. 13-16-5. Cg. 6,-913 ft.

McDowell et al No. 1 Locke, NE cor. sec. 9-15-10. S.D. 1,820 ft.; fuel.

Seaboard No. 1 McGee, 660 ft. N and E C sec. 3-16-3. Drlg. plg. and perf.; T.D. 7,544 ft.

Bossier Parish

Ark.-La. No. 1 W. H. Davis, 660 ft. S, 1,-270 ft. E, NW NE NW sec. 8-17-11. P.B. 5,222 to 5,100 ft.; W.O.C.S.

Arkansas-La. No. 1 R. Hardeman, SE cor. sec. 6-17-11. 13-in. cmt. 269 ft.; W.O.C.S.

Arkansas-La. No. 1 Tom Wilson, SW sec. 8-17-11. Loc.

La. Pet. Corp. et al No. 1 Edwards Est., NW SW sec. 5-17-11. Cg. 4,230 ft.

Haynes Drlg. Co. No. 1 A. J. Murff, NE SE sec. 35-17-12. R.U.

Tidwell et al No. 1 Natting, sec. 15-22-14. T.D. 2,954 ft.; S.D.

Triangle Drlg. Co. No. 1-I Skannal, NW cor. sec. 22-17-12. Tstg.; T.D. 5,162 ft.

Triangle No. 1-H Skannal, SE SW SW sec. 23-17-12. Drlg. 1,800 ft.

United Gas No. 1 H. G. Freeman, SW cor. sec. 15-17-12. T.D. 5,188 ft.; acidized; prep. test.

United Gas No. 1 Henderson, NE cor. sec. 36-17-12. S.D. 320 ft.

United Gas No. 1-H A. C. Skannal, NE SE sec. 26-17-12. Drlg. 4,542 ft.

Caddo Parish

Paul Cooper No. 1 Rodgers, NW SW SW sec. 11-20-15. T.D. 2,204 ft.; tstd. dry and prep. D.D.

W. D. Chew No. 3 U. S. Govt., NW sec. 5-20-16. Drlg. 150 ft.

C. C. Chews No. 3 Pender, SW NW SW sec. 11-20-15. Loc.
Custer Oil Co. No. 1 Wemple, N½ NW sec. 14-20-15. S.D. 1,650 ft.; rig rep.
DeMaggo et al No. 1 Huckaby, SE NE SE sec. 26-22-16. 8-in. cmt. 1,133 ft.; T.D. 1,137 ft.
Gulf Ref. Co. No. 1 E. P. Hatcher, 660 ft. N and E, SW cor. SE¼ sec. 11-17-15. Drlg. 3,687 ft.
B. F. Laney No. 1 Taylor, SW SE SW sec. 17-21-14. S.D. 800 ft.; rig rep.
F. L. Luckett No. 1 Connell, SW NE sec 10-20-15. 6-in. cmtd. 2,174 ft.; T.D. 2,203 ft.; blg. to test.
Matt M. Press No. 1 Keller, SE cor. sec. 10-20-15. Comp.; pump 50 B.P.D.; T.D. 2,255 ft.
Rodgers et al No. 1 Thompson, NW SW SW sec. 11-20-15. Drlg. 1,830 ft.
Stanolind No. 116 Dillon, SE SE sec. 14-21-15. Drlg. 1,505 ft.
J. J. Thompson No. 1 Gamm, NE SW NW sec. 35-21-15. 6-in. cmt. 2,204 ft.; T.D. 2,225 ft.; W.O.C.S.

Caldwell Parish

Critcher & Woods No. 2 So. Craft, SE NW NE sec. 18-11-3e. Drk.

Catahoula Parish

Balcones Corp. No. 1 T. J. Chisholm, 1,500 ft. N, 2,500 ft. W, SE cor. sec. 19-10-8e. R.U.

Claiborne Parish

Lisbon Oil Co. No. 1 J. W. Burgess, NE SE NE sec. 3-20-5w. Loc.
Lyons & Neely No. 1 H. E. Patton, NE NW SW sec. 36-21-5w. Loc.
Max Hirsch et al No. 1 C. O. Ferguson, 2,640 ft. N, 1,000 ft. E. SW cor. sec. 29-22-6w. Drlg. 5,495 ft.
Ray P. Oden No. 1 W. H. Patton, SW SE SE sec. 36-21-5w. Drk.
Red Iron Drlg. Co. No. 1 H. E Patton, S½ SW NE sec. 36-21-5w. Loc.
Standard Oil of La. No. 1 Baker, 660 S&E NW sec. 27-19n-7w. Loc.
United Gas et al No. 1 R. Simms, NW cor. sec. 32-20-5w. T.D. 5,714 ft; P.B. and tstg.

De Soto Parish

Benedum & Trees No. 1 Clifton, NE NW sec. 33-13-12. Drlg. 500 ft.
Chamberlin et al No. 1 Lanier, 280 ft. N and E, SW NE sec. 29-11-11. Drk.
Gulf Ref. Co. No. 36-A Jenkins, SE cor. sec. 2-12-12. Drlg. 1,080 ft.
Peral Oil Co. No. 1 Joyner, SE NW SW sec. 28-11-12. Cmtd. 8-in. 2,885 ft.; T.D. 5,897 ft.; prep. testg.
Rio Rajo Oil Co. No. 7 Prudhomme, SE cor. sec. 20-12-11. S.D. 1,250 ft.
Stillers et al No. 2 Jenkins, 330 ft. S and W, NE SE NW sec. 35-13-12. S.D. 2,503 ft.; fuel.
Vaughn Prod. Co. No. 1 Sample, 330 ft. N and E, SW NE SE sec. 24-11-14. T.D. 5,930 ft.; S.D.; W.O.

Grant Parish

Grant Oil Corp. No. 1 Holmes, 300 ft. N, 150 ft. E, SW NE SW sec. 17-9-1e. T.D. 1,609 ft.; pumped S.W. only; D.&A.

LaSalle Parish

Lee Oil Corp. No. 1 Tullos, 150 ft. S and W NE NE sec. 26-10-1e. Loc.

Morehouse Parish

Interstate Fee No. 56, NE cor. sec. 27-20-3e. Comp., 4,000,000 ft. gas; T.D. 2,387 ft.

Ouachita Parish

Hope Prod. Co. No. 7 Call, NW cor. sec. 43-19-4e. Comp.; 2,500,000 ft. gas; T.D. 2,187 ft.
United Gas No. 2 Morris, SE sec. 36-19-3e. Loc.
United Carbon No. 7 Neston, NE cor. sec. 32-19-4e. Cmt. 6-in. 2,187 ft.; W.O.C.S.

Red River Parish

Gulf No. 25 Kennedy, NW cor. sec. 24-13-11. Comp.; pump 30 B.P.D; T.D. 2,550 ft.
Perla Oil Co. No. 1 DeLong, 330 ft. S and E, C sec. 23-12-10. S.D. 2,800 ft.

Richland Parish

Gulf Ref. Co. No. 15 R. R. Rhymes et al, sec. 32-17-4e. Drlg. 9,267 ft.

Sabine Parish

Blue Lake Oil Co. No. 1 Delaney & Wheless, NW SW sec. 31-9-13. S.D. 2,037 ft.
Earl F. Fox No. 1 Blankenship, NE SE NW sec. 13-9-12. Cg. 3,160 ft.
Kirk-Green-Way Inc. No. 1 Whitney Corp., NW NE sec. 8-9-13. Loc.
Posey Sisters Oil Co. No. 3 Burkett, NE cor. sec. 10-9-13. S.D. 3,234 ft.
Power Oil Co. No. 1 Belton, 990 W. 330 S NE sec. 31-9-13w. Loc.
Willis & Dowden No. 1 Lynch, SW NE SW sec. 29-9-13. T.D. 1,608 ft.; arg. tst.

Union Parish

So. Carbon Co. No. 17 Grayling, SW cor. sec. 21-21-4e. R.U.
So. Carbon No. 18 Grayling, SE cor. sec. 20-21-4e. Loc.

Webster Parish

Magnolia Pet. Co. No. 5 J. Cox, SW SE sec. 23-21-10. P.B. 8,100 ft., 7-in. cmt. 8,089 ft.; W.O.C.S.
Ohio Oil Co. No. 1 S. P. D. Coyle, NW SE SW sec. 23-21-10. 13-in. cmt. 809 ft.; W.O.C.S.
Ohio Oil Co. No. 2 R. M. Coyle, SE sec. 22-21-10. Loc.
Ohio Oil Co. No. 2 A. H. Gray Acct. No. 2, NW sec. 26-21-10. 13-in. cmt. 783 ft.; W.O.C.S.
Ohio Oil Co. No. 2 A. J. Hodges, NE NW SW sec. 23-21-10. 13-in. cmt. 784 ft.; W.O.C.S.
Red Hawk Oil Co. No. 1 Mayfield, sec. 9-23-9. T.D. 2,802 ft.; pulled drk. in; W.O.
Standard Oil Co. of La. No. 1 E. Firdecker, 1,320 ft. E, 1,316 ft. S, NW cor. sec. 2-17n-9w. Cg. 6,617 ft.
Tide Water No. 1 L. Pipes, NE SE sec. 10-18-10. Drlg. 6,445 ft.
United Gas No. 2 Davis, 660 ft. S and E, NW cor. sec. 23-21-10. Cg. 8,182 ft.
United Gas No. 1 Mixon, SE SW sec. 22-21-10. Drlg. 8,005 ft.
Woodley Pet. Co. No. 4-B Gray, NE NE sec. 27-21-10. Drlg. 4,410 ft.

Winn Parish

G. W. Zeigen No. 9 La. Cen. Lbr. Co., SE NE sec. 20-13-1e. Dry and abnd.; T.D. 1,771 ft.

SOUTH LOUISIANA FIELDS

Ansela Butte—St. Martin Parish

Stanolind O. & G. Co. No. 1 Patin, sec. 46-9s-5e. 13⅜-in. csg. 1,514 ft.; T.D. 5,430 ft. (cor.); P.B. 2,658 ft.; drlg. sh. 4,307 ft.

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 13 State, sec. 17-22s-18e. Drlg. salt 4,683 ft.; no report.

Bayou Bouillion—Iberville Parish

S. C. Yingling No. 1-A State, sec. 13-9s-8e. T.D. 3,272 ft.; oil sd; rng. csg.; no report.

Bayou Mallett—Acadia Parish

Superior Oil Prod. Co. No. 5 Breelley, sec. 52-7s-1e. Drk.
Superior Oil Prod. Co. No. 1 Savoie, sec. 47-7s-1e. Top sd. 6,983 ft.; 7-in. csg. 6,980 ft.; T.D. 7,230 ft.; perf. csg. 7,189-93 ft.; comp. for gas well; no gauge.

Cankton—St. Landry Parish

Superior Oil Prod. Co. No. 1 Brasseaux, sec 24-8s-3w. Drk.

Caillou Island—Terrebonne Parish

Texas Co. No. 20 State, sec. 18-23s-20e. Drlg. sdy. sh. 3,569 ft.; no report.
Texas Co. No. 28 State, sec. 18-23s-20e. Drlg. sh. 4,511 ft.
Texas Co. No. 33 State, sec. 20-23s-20e T.D. 4,830 ft.; P.B. and strkd.; drlg sd. 3,809 ft.

Charenton—St. Mary Parish

Pan American Prod. Co. No. 2 Laws Realty Co., sec. 30-13s-10e. Tested 1,000 ft. of P.L. oil on drill stem test 7,184-94 ft.; rng. csg.
Pan American Prod. Co. No. 1 South Coast Corp., sec. 30-13s-10e. S.D. 6,934 ft.

Choctaw—Iberville Parish

Standard Oil Co. No. 9 Myrtle Grove, sec. 53-9s-11e. S.D. 160 ft.

Cameron Meadows—Cameron Parish

Burton Sutton Oil Co. No. 16 Sch. Ld., sec. 16-14s-13w. Set 10¾-in. csg.; T.D. 4,851 ft.; P.B. 4,440 ft.; W.O.
Burton Sutton Oil Co. No. 18 School Ld., sec. 16-14s-13w. Drk.
Magnolia Pet. Co. No. 19 Cameron Meadows, sec. 16-14s-13w. T.D. 4,714 ft.; recvd. 2,500 ft. of P.L.O. on D.S.T.; 9⅝-in. csg. 4,694 ft.; P.B. 4,708 ft.; W.O.C.

Darrow—Ascension Parish

Humble O. & R. Co. No. 4 Community, sec. 33-2e. Drk.
Humble Oil & Ref. Co. No. 14 Community, sec. 29-10s-2e. T.D. 5,613 ft.; oil sd.; rng. electrical cg. test.

Dog Lake—Terrebonne Parish

Texas Co. No. 4 State, sec. 5-22s-16e. T.D. 5,342 ft.; sdtrkd. at 5,185 ft.; T.D. 6,147 ft.; cmtg. split csg.

Four Isle—Terre Bonne Parish

Texas Co. No. 8 State. Drlg. sh. and L. 7,987 ft.

Fausse Point—Iberia Parish

Texas Co. No. 2 State, sec. 35-11s-8e. 7-in. csg. 6,444 ft.; cd. salt 7,151-57 ft.; 1,021 ft. of 4½-in. csg. 7,157 ft.; perf. csg. 6,303-6,553 ft.; rng. liner.

Garden Island—Plaquemines Parish

Texas Co. No. 23 State, sec. 37-23s-33e. 18⅝-in. csg. 541 ft.; drlg. sh. and L. 3,868 ft.

Gillis—Calcasieu Parish

Fohs Oil Co. No. 17 O. H. Castle, sec. 14-9s-8w. Drlg. sdy. sh. 4,725 ft.
Texas Co. No. 12 Nickerson, sec. 1-9s-8w. Dredge canal.
Union Sulphur Co. No. 12 Barbe, sec. 1-9s-8w. Drlg. sh. 8,536 ft.; no report.
Union Sulphur Co. No. 13 Barbe, sec. 1-9s-8w. Loc.
Union Sulphur Co. No. 14 Barbe, sec. 1-9s-8w. Loc.
Union Sulphur Co. No. 2 Bel, sec. 12-9s-8w. T.D. 6,788 ft.; P.B. 5,271 ft.; sidetracked. T.D. 8,290 ft.; 5-in. csg. 8,282 ft. flwd. 200 bbls. oil; started making S.W.; reworking.
Union Sulphur Co. No. 1 McIver, sec. 14-9s-8w. Cored oil sd. 5,421-31 ft.; rng. csg.
Union Sulphur Co. No. 11 Powell, sec. 12-9s-2w. T.D. 6,673 ft.; comp.; no gauge.
Union Sulphur Co. No. 12 Powell Lbr. Co., sec. 12-9s-8w. R.U.
Union Sulphur Co. No. 13 State, sec. 13-9s-8w. Drk.
Union Sulphur Co. No. 15 State, sec. 12-9s-8w. Drk.

Hackberry—Cameron Parish

W. T. Burton Oil Co. No. 1 R. L. Lewis, sec. 22-12s-10w. T.D. 4,172 ft.; 7-in. csg. 4,155 ft.; tstg.
W. T. Burton No. 1 Rosella Vincent, sec. 22-12s-10w. R.U.
Gulf Oil Corp. No. 23 Erwin, sec. 12-12s-10w. R.U.
Independent Oil Co. No. 1 Sanner, sec. 29-12s-10w. Cg. broken sd. 1,753 ft.
Stanolind O. & G. Co. No. 6 Carter, sec. 22-12s-10w. R.U.
Stanolind Oil & Gas Co. No. 1 J. H. Duhon, sec. 27-12s-10w. Drlg. sh. 3,613 ft.
Stanolind O. & G. Co. No. 25-B Gulf Land fee, sec. 15-12s-10w. Canal.
Stanolind O. & G. Co. No. 1 M. J. Muller, sec. 23-12s-10w. 7⅝-in. csg. 4,617 ft.
Stanolind O. & G. Co. No. 18 School Land, sec. 16-12s-10w. R.U.
Superior Oil Prod. Co. No. 1 C. Hebert Estate, sec. 33-12s-10w. Drlg. sh. and L. 4,939 ft.
Sutton Joint Interest No. 1 Ellender, sec. 22-12s-10w. R.U.
Sutton Joint Interest No. 1 Portie, sec. 32-12s-10w. S.D. oil sd. 4,396 ft.; 7-in. csg. 4,388 ft.; tstg.
Texas Co. No. 20 State, sec. 12-12s-10w. Drlg. sh. 7,530 ft.
Union Sulphur Co. No. 42 Walkins, sec. 13-12s-10w. T.D. 2,990 ft.; 7-in. csg. 2,981 ft.; comp.; no gauge.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 7 Banta, sec. 40-13s-9e. Drlg. sh. 5,730 ft.
Herton Oil Co. No. 4 Carter, sec. 38-13s-9e. Cd. oil sd. 7,010-55 ft.; T.D.
A. U. Morrison No. 1 Matilda Plantation, sec. 70-13s-9e. Drlg. sdy. sh. 6,715 ft.
Philtop O & G. Co. No. 1 Eaves, sec. 70-13s-9e. Drk.

Jennings—Acadia Parish

A. C. Glassell et al No. 1 J. Trusel, sec. 42-9s-2w. R.U.
Lake City Oil Co. No. 2 Jennings Synd., sec. 46-8s-2w. Drlg. sh. 2,212 ft.
T. C. Markly No. 1 Gourney, sec. 42-9s-2w. Drlg. sh. 1,530 ft.
Shell Pet. Corp. No. 2 Community, sec 40-9s-2w. T.D. 7,185 ft.; tried to blow-out; drill stem stuck; fsg.
Stanolind O. & G. Co. No. 18 Houssiere-Latrelle, sec. 47-9s-2w. T.D. 5,453 ft.; lost circulation.
Superior Oil Prod. Co. No. 1 Iowa-Jennings, sec. 41-9s-2w. Drlg. sd. and sh. 5,672 ft.
Superior Oil Prod. Co. No. 2 Leckcit, sec. 42-9s-2w. Drlg. sd. 5,685 ft.

Lafitte—Jefferson Parish

Texas Co. No. 6 Lafitte, sec. 20-17s-24e. T.D. 1,771 ft.; lost returns; moved drlg. barge 135 ft. N of first hole; drlg. 630 ft.
Texas Co. No. 6 Rigolettes, sec. 39-17s-24e. Drlg. sdy. sh. and L. 5,981 ft.
Texas Co. No. 1 State-Bayou Norman, sec. 28-17s-24e. Loc.

Lake Barre—Terrebonne Parish

Texas Co. No. 37 Lake Barre-State. T.D. 10,196 ft.; fsg.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp. No. 6 LaFourche, sec. 11-8s-25e. Drlg. sd. 4,879 ft.

Lake Pelto—Terrebonne Parish

Texas Co. No. 15 State, sec. 17-23s-18e. Drlg. sd. 6,944 ft. (cor.); no report.

Leesville—Lafourche Parish

Carter-Michael No. 1 E. S. Bernard, sec. 26-21s-22e. Drlg. sd. 6,135 ft.
Gulf Oil Corp. No. 1-A City of New Orleans, sec. 35-21s-22e. Drlg. sdy. sh. 5,212 ft.
Gulf Oil Corp. No. 4 City of New Orleans, sec. 25-21s-22e. T.D. 5,945 ft.; P.B. 1,075 ft.; drlg. sh. 2,837 ft.
Texas Co. No. 58 Leesville, sec. 27-21s-22e. 10¾-in. csg. 765 ft.; T.D. 4,346 ft.; 7⅝-in. csg. 4,389 ft.
Texas Co. No. 60 Leesville, sec. 27-21s-22e. T.D. 4,203 ft.; 7⅝-in. csg. 3,130 ft.

New Iberia—Iberia Parish

Wm. Hellis No. 6 Bernard, sec. 54-12s-7e. Drlg. sh. 3,516 ft.
Wm. Hellis No. 7 Bernard, sec. 54-12s-7e. Drk.
Wm. Hellis No. 4 Boliver, sec. 56-12s-7e. R.U.
Wm. Helis No. 4 Bullock & Burke, sec. 25-12s-7e. T.D. 4,505 ft.; P.B. and sdtrk.; drlg. sh. 3,937 ft.
Wm. Hellis No. 3 Schwing, sec. 57-12s-7e. R.U.
Kitos et al No. 3 Sealy, sec. 36-12s-7e. 9⅝-in. csg. 874 ft.; S.D. 5,642 ft.
Texas Co. No. 1 Clementine, sec. 25-12s-1e. Drlg. sd. and L. 6,512 ft.
Texas Co. No. 3-B Hanzen, sec. 54-12s-7e. Oil sd. 4,818-27 ft.; T.D. 5,034 ft.; perf. csg; tstg.
Texas Co. No. 4-B Hanzen, sec. 54-12s-1e. Drlg. sd. and L. 4,012 ft.

Port Barre—St. Landry Parish

Pan American Prod. Co. No. 3 Cormier, sec. 4-6s-5e. Drlg. sh. 6,249 ft.

Roanoke—Jefferson Davis Parish

Humble O. & R. Co. No. 6-B J. W. Devilbiss, sec. 11-9s-4w. T.D. 8,593 ft.; oil sd.; I.P. 551 B.P.D. through ¼-in. ck.
Shell Pet. Corp. No. 6 Kratzer, sec. 13-9s-4w. 10¾-in. csg. 2,454 ft.; drlg. sd. and sh. 9,714 ft.

Sorrento—Ascension Parish

Pan American Prod. Co. No. 8 United Land, sec. 22-10s-4e. R.U.
Sorrento Oil Co. No. 1 Bernard, sec. 9-19s-14e. S.D. 6,262 ft.

Starks—Calcasieu Parish

J. R. Turnbull No. 1 Industrial Lbr. Co., sec. 20-9s-12w. S.D. 6,433 ft.

Sulphur—Calcasieu Parish

Union Sulphur Co. No. 839 fee, sec. 30-9s-10w. 10¾-in. csg. 1,010 ft.; T.D. 3,932 ft.; 7-in. csg. 3,923 ft.; swabbing
Union Sulphur Co. No. 840 fee, sec. 31-9s-10w. Drk.
Union Sulphur Co. No. 841 fee, sec. 31-9s-5w. T.D. 4,456 ft.; 7-in. csg. 4,436 ft.; P.B. 4,440 ft.; tstd. S.W.; sdtrkng. 4,195-4,210 ft.
Union Sulphur Co. No. 842 fee, sec. 29-9s-10w. Drlg. sh. 5,430 ft.
Union Sulphur Co. No. 843 fee, sec. 31-9s-10w. T.D. 5,147 ft.; P.B. and sdtrk.; drlg. sh. 5,012 ft.

Tepetate—Acadia Parish

Continental Oil Co. No. 9-A Homeseekers Dev. Co., sec. 29-7s-2w. T.D. 8,323 ft.; fsg.
Continental Oil Co. No. 11-A Homeseekers Dev. Co., sec. 29-7s-2w. Cg. 8,300 ft.
Continental Oil Co. No. 1-D Homeseekers Dev. Co., sec. 29-7s-2w. T.D. 8,342 ft.; P.B. to 3,600 ft.; drlg. 7,612 ft.
Continental Oil Co. No. 2 P. O. Johnson, sec. 30-7s-2w. Drlg. sh. 4,739 ft.

Valentine—Lafourche Parish

Pan American Prod. Co. No. 2 Harang, sec. 8-17s-20e. Drlg. sh. 5,875 ft.
Pan American Prod. Co. No. 3 Harang, sec. 8-17s-20e. Spudded.

White Castle—Calcasieu Parish

Shell Pet. Corp. No. 4 Shingle, sec. 12-11s-12e. Cg. 8,525 ft.

S. LOUISIANA WILDCATS

Acadia Parish

H. E. Dalton No. 1 Setting, sec. 17-7s-1w. S.D. 5,047 ft.; laying gas line.
Humble O. & R. Co. No. 1 Nordyke, sec. 23. 9⅝-in. csg. 6,843 ft.; S.D. 7,855 ft.

Allen Parish

Humble O. & R. Co. No. 3 Bel, located in cratered hole, sec. 26-6s-7w. 10¾-in. csg. 165 ft.; T.D. 2,870 ft.; 7-in. csg. 2,766 ft.; shot well; failed to stop flwg. S.W.; S.D.

Avoyelles Parish

Coastal Mineral Dev., Inc., No. 1 Purdy-Hess, sec. 25-2n-3e. Drk.
George Conover No. 1 Purdy-Hess, sec. 36-2n-3e. Drk.
Frost Oil Co. No. 1 Hines Lumber Co., sec. 3-3n-4e. Drk.

Calcasieu Parish

D. D. Oil Co. No. 1 Lutcher Moore, sec. 11-8s-13w. Drlg. sh. 6,601 ft.
Wilfred Lahaye No. 1 Bass, sec. 9-10s-12w. S.D. 80 ft.

Cameron Parish

Magnolia Pet. Co. No. 1 Gray Hrs., sec. 8-15s-14w. T.D. 6,357 ft.; P.B. 5,940 ft.; W.O.C.
Pure Oil Co. No. 1 Mallard Bay, sec. 11-13s-3w. 18⅝-in. csg. 1,499 ft.; 9⅝-in. csg. 7,906 ft.; drlg. sh. 9,975 ft.
Southern Sulphur Co. No. 2 State, sec. 31-15s-10w. S.D. 1,410 ft.
Union Sulphur Co. No. 1 J. O. Hebert, sec. 18-12s-8w. Drlg. sh. 4,725 ft.

East Baton Rouge Parish

Cavalier Oil Co. No. 1 Vingnes, sec. 46-8s-2e. T.D. 6,690 ft.; D.S. stuck.
Cavalier Oil Co. No. 1 Young, sec. 61-4s-2w. Abd. loc.

Evangeline Parish

Belle Chenney Springs Oil Co. No. 1 Belle Springs Land Dev. Co., sec. 10-2s-1w. Drlg. gumbo 300 ft.
Continental Oil Co. No. 1 Pardee Lbr. Co. sec. 18-4s-1w. Moving in rig.
La. Crusader Oil Co. No. 1 Hattie Haas sec. 2-3s-5e. Drlg. sh. 4,520 ft.

East Feliciana Parish

Barnett Pet. Corp. No. 1 Tullis, sec. 34-2s-1w. R.U.
Cavalier Oil Co. No. 1 Mells, sec. 58-4s-2w. Drlg. sdy. sh. 4,194 ft.
East Feliciana Oil No. 1 West & Budding sec. 37-1s-1w. Spudded 15 ft. and S.D.

Iberia Parish

Jefferson Lake Oil Co. No. 414 State Lake Pigneur, Twp. 12s-5e. Top salt 990 ft.; set 10¾-in. csg. 5,095 ft.; drlg. sh. 5,792 ft.
Texas Co. No. 1-B State, Vermilion Bay sec. 16-15s-6e. T.D. 10,622 ft.

Jefferson Parish

Triangle Oil Co. No. 1 Conroe, sec. 116 12s-11e. Drlg. sh. 2,421 ft.

Jefferson Davis Parish

H. M. Naylor No. 2 Johnson-Bourdreaux, sec. 39-10s-3w. Drlg. sh. 8,907 ft.
Shell Pet. Corp. No. 1 Joe Sturdivant, sec. 25-10s-4w. 10¾-in. csg. 2,616 ft. T.D. 9,747 ft.; fsg.
Stanolind O. & G. Co. No. 1 Calcasieu Natl. Bank, sec. 28-7s-3w. Drlg. sh. 3,505 ft.
Stanolind O. & G. Co. No. 1 United Life Accident Co., sec. 16-11s-5w. S.D. high water.

Lafourche Parish

Fohs Oil Co. No. 1 State Lake, sec. 44-17s-19e. Moving in.
Wm. Helis No. 1 City of New Orleans sec. 19-23s-23e. Top salt 7,463 ft.; electrical test; showed oil; T.D. 8,013 ft.

Livingston Parish

Coastline Oil Co. No. 1 Addison Trust Co. sec. 7-7s-3e. Drk.

Plaquemines Parish

Gulf Oil Corp. No. 1 Bay-Adams, sec. 31-32s-19. Drlg. sd. 3,304 ft.
Tide Water Oil Co. No. 2 Manhattan Fruit Co., sec. 34-21s-22e. T.D. 4,762 ft.; P.B. 1,920 ft.; cd. sd. showing oil 6,429-38 ft.; T.D. 6,734 ft.; drill stem stuck.

Rapides Parish

R. D. Webb No. 1 A. M. Brasher, sec. 22-4n-2w. R.U.

St. Bernard Parish

Gulf Oil Corp. No. 1 Lake Lery, sec. 28-14s-14e. Drlg. sd. 4,669 ft.

Southern Sulphur Co. No. 2 State Lake Borgne, sec. 38-14s-15e. 13⅜-in. csg. 303 ft.; drlg. sh. 1,750 ft.

St. Landry Parish

Superior Oil Prod. Co. No. 2 A. Savoie, sec. 26-8s-3e. 11¾-in. csg. 1,180 ft.; cg. sh. 5,980 ft.; T.D. 6,588 ft.; rng. 7-in. csg.

St. Martin Parish

Shell Pet. Corp. No. 1 Hefla Ld. Co., sec. 38-8s-5e. T.D. 9,800 ft.; abd.

Texas Co. No. 9 St. Martin, sec. 21-8s-7e 18⅝-in. csg. 106 ft.; drlg. sh. 7,924 ft.

Texas Co. No. 3 State, sec. 14-10s-9e R.U.

Terrebonne Parish

Humble O. & R. Co. No. 1 H. J. Ellender, sec. 23-19s-19e. T.D. 8,744 ft.; rng. csg.; cg. test; showed 27 ohms and 23 millivolts 8,385-8,430 ft.

Shell Pet. Corp. No. 1-B Realty, sec. 18-17s-15e. T.D. 9,483 ft.; oil sd. rec. 12 bbls. of oil on drill-stem test 9,461-83 ft.; rng. 7-in. csg.

St. Mary Parish

Texas Co. No. 1 Horse Shoe Bayou, sec 40-17s-9e. Drlg. sh. 10,627 ft.

Texas Co. No. 1 State-Bateman Lake, sec. 21-16s-12e. Loc.

Vermilion Parish

Continental Oil Co. No. 1 O. C. Hebert, sec. 20-12s-3e. T.D. 11,732 ft.; circulating with mud; well tried to blow out; fsg. for stuck D.S.; hole cleaned to 10,680 ft.; set cmt.; P.B. to 10,800 ft.; sdtrkd. at 10,800 ft.; T.D. 12,216 ft., 5-in. csg. 11,795 ft.; flowed est. 5,000,000 ft. of dry gas per day through ¼-in. ck.; C.P. 3,950 lbs.; T.P. 3,500 lbs. Tubing and csg. sanded up; pulling tbg.

Drunella Oil Co. No. 1 Cardwell, sec. 41-13s-4e. Cg. sd. 7,803 ft.

TEXAS

Week Ending February 13

GULF COAST FIELDS

Raccoon Bend—Austin County

Humble O. & R. Co. No. 10 Austin College, Wm. Harvey Sur. Drlg. sh. 3,200 ft.

Humble O. & R. Co. No. 12-B Hardy, J. E. Groce Sur. T.D. 4,233 ft.; Abd.

Humble O. & R. Co. No. 13-X Sherrod, W. C. White Sur. Drlg. 1,160 ft.

Hastings—Brazoria County

Humble O. & R. Co. No. 1 Allen, B.B.B.&C. Sur. Drlg. sh. 5,513 ft.

Humble O. & R. Co. No. 3-B Brown, Perry & Austin Sur. Loc.

Humble O. & R. Co. No. 2 P. A. Hoidale, Lot 16, B.B.B.&C. Sur. Drlg. sh. 1,687 ft.

Humble O. & R. Co. No. 1 King, H.T.&B. Sur. Drk.

Humble O. & R. Co. No. 1 C. M. Moody, Blk. 11, B.B.B.&C. Sur. Loc.

Humble O. & R. Co. No. 1 Warring-Flint, Lot 15, B.B.B.&C. Sur. Drlg. sh. 4,387 ft.

Navarro Oil Co. No. 2 Callahan, Lot 5, H.T.&B. Sur. No. 29. Loc.

Navarro Oil Co. No. 1 Callahan, Lot 6 H.T.&B. No. 29. Loc.

South Gulf Oil Corp. No. 1 M. L. Gann, C of 10-ac. blk., Blk. 21, H.T.&B. Sur. No. 29. 10¾-in. csg. 1,800 ft.; drlg. plug.

Stanolind O. & G. Co. No. 2 Brown. Drlg. sh. 4,800 ft.

Stanolind O. & G. Co. No. 4 C. A. Cannon, H.T.&B. Sur. 10¾-in. csg. 1,720 ft.; T.D. 6,080 ft.; running 7-in. csg.

Stanolind O. & G. Co. No. 1 Condon, H. T.&B. Sur. No. 29. Drlg. sh. 1,625 ft.

Stanolind O. & G. Co. No. 8 Drake, H.T. &B. Sur. No. 36. Drlg. sh. 5,075 ft.

Stanolind O. & G. Co. No. 2 T. C. Edwards, Wm. Henry Sur. Drk.

Stanolind O. & G. Co. No. 10 Ford, A.C. H.&B. Sur. 10¾-in. csg. 1,648 ft.; drlg. sh. 4,975 ft.

Stanolind O. & G. Co. No. 3 Surface, B. B.B.&C. Sur. Drk.

Stanolind O. & G. Co. No. 8 Williams, A. C.H.&B. Sur. No. 1. Drk.

Windsor Oil Co. No. 1 Hirsch, B.B.B.& C. Sur. Drlg. sh. 4,637 ft.

Lockridge—Brazoria County

Gulf Oil Corp. No. 1 Fred Reiss, J. W. Hall Sur. Drlg. sh. and L. 7,905 ft.

Gulf Oil Corp. No. 1 Carrie Baker, J. W. Hall Sur. No. 68. R.U.

Shell Pet. Corp. No. 2 Ramsey State farm, J. W. Hall Sur. No. 68. R.U.

Manvel—Brazoria County

Bowles & Borsodi No. 4 Norvell Co., Inc., H.T.&B. Sur. No. 23. R.U. and S.D.

Burton Drlg. Co. No. 2 Mortgage Ld. and Trust Co. Cen. Lot 102, A.C.H.&B. Sur. No. 92. Drlg. sh. 2,730 ft. No report.

E. A. Stone No. 1 Nichols, E. Little Sur. Drk.

Texas Co. No. 15 Belcher, H. N. Little Sur. R.U.

West Columbia—Brazoria County

Texas Co. No. 15 Abrams, George Tenille Lge. Sur. R.U.

Old Ocean—Brazoria County

Harrison and Abercrombie No. 3 Bernard River, Charles Breen Sur. 9⅝-in. csg. 6,070 ft.; cmtd. 4,304 ft. of 7-in. csg. at 10,004 ft; coring sd. showing gas 10,-265 ft.

Heyser—Calhoun County

Humble O. & R. Co. No. 6 Elizabeth Welder, J. Maria Rios Sur. Loc.

Humble O. & R. Co. No. 5 E. H. Welder, J. M. Rios Sur. R.U.

Humble O. & R. Co. No. 8-A P. H. Welder, J. M. Rios Sur. Drk.

Humble O. & R. Co. No. 9-B P. H. Welder, A. Sisneros Sur. T.D. 5,490 ft.; I.P. 193 B.P.D. through 9/64-in. choke.

Humble O. & R. Co. No. 10-B P. H. Welder, A. Sisneros Sur. Drlg. sh. 5,-290 ft.

Portilla Oil Co. No. 5-C P. H. Welder, A. Sisneros Sur. T.D. 5,485 ft.; running csg.

Anahuac—Chambers County

Gulf Oil Corp. No. 5 W. Knowles, sec. 48, H.&T.C. Sur. Bldg. drk.

Gulf Oil Corp. No. 6 Knowles, sec. 48, H. &T.C. Sur. T.D. 7,080 ft.; I.P. 665 B.P.D. through ¼-in. choke.

Gulf Oil Corp. No. 2 Pommer, sec. 40, H. &T.C. Sur. R.U.

Gulf Oil Corp. No. 2 Wilcox, H.&T.C. Sur., sec. 48. T.D. 7,080 ft.; I.P. 680 B.P.D. through ¼-in. choke.

Gulf Oil Corp. No. 3 G. C. Wilcox, sec. 48, H.&T.C. Sur. Bldg. drk.

Humble O. & R. Co. No. 10 Broussard-Hebert, sec. 59, H.&T.C. Sur. Drk.

Humble O. & R. Co. No. 11 Broussard-Hebert, sec. 59, H.&T.C. Sur. Loc.

Humble O. & R. Co. No. 8 Engles, sec. 50, H.&T.C. Sur. R.U.

Humble O. & R. Co. No. 7 Grippon, sec. 51, H.&T.C. Sur. Loc.

Humble O. & R. Co. No. 9 H. A. Grippon, H.&T.C. Sur., sec. 153. Drlg. sh. 5,-012 ft.

Humble O. & R. Co. No. 11 Tyrell. Drlg. sd. 7,039 ft.

Humble O. & R. Co. No. 10-B White, J. McGahey Sur. Drlg. sd. 4,987 ft.

Navarro Oil Co. No. 1 E. Drought, H.&T.C. Sur., sec. 46. Loc.

Sun Oil Co. No. 2 White, J. McGahey Sur. Drlg. sh. 6,296 ft.

Cotton Lake—Chambers County

Kirby Pet. Co. No. 1 W. D. Haden, Chambers County Sch. Land Sur. Moving in.

Salt Dome Oil Co. No. 1-B Lawrence, S. Barrow Sur. T.D. 6,532 ft.; showed S.W. mud cut with oil and gas on drill-stem test. Running csg. to test 6,493-98 ft.

Seabreeze—Chambers County

Sun Oil Co. No. 1-A White, J. G. White Sur. No. 128. O.W.D.D.; T.D. 9,055 ft.; R.U.

Sun Oil Co. No. 1-B White, Wm. Mays Sur. 18⅝-in. csg. 1,226 ft.; drlg. sd. and sh. 4,880 ft.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 4 State, due S of Sun Oil Co. No. 1 Chambers in Turtle Bay. T.D. 6,608 ft.; 7-in. csg. 6,594 ft.

Big Creek—Fort Bend County

Gulf Oil Corp. No. 73 Davis, M. Young Sur. Drlg. sh. 2,927 ft.

Gulf Oil Corp. No. 74 T. W. Davis, M. Young Sur. Drk.

Jenal Oil Co. No. 3 Bryan et al., M. Young Sur. R.U.

Blue Ridge—Fort Bend County

Barnett Pet. Co. No. 1-B Blakely, Lot 7, Blk. E, Drew Sur. T.D. 3,876 ft. (cor.); rerunning screen.

Orchard—Fort Bend County

Gulf Oil Corp. No. 49 J. M. Moore, Germain Immg. No. 8. 13⅜-in. csg. 2,522 ft.; drlg. 3,718 ft.

Gulf Oil Co. No. 50 Moore Germain Immg. Drlg. sh. 2,674 ft.

Gulf Oil Corp. No. 51 Moore, Mark Smith Sur. Drlg. 1,524 ft.

High Island—Galveston County

Stanolind O. & G. Co. No. 1-B Cade, H. Denman Sur. Drk.

Stanolind O. & G. Co. No. 61 Cade, N. Fitzsimmon Sur. Loc.

Stanolind O. & G. Co. No. 60-A Cade, M. Duncan Sur. T.D. 6,111 ft.; 7-in. csg. on bottom.

Dickinson—Galveston County

Coast Pet. Corp. No. 5 Maco Stewart, W. K. Wilson Sur. Drlg. sh. 5,215 ft.

Coast Pet. Corp. No. 6 Maco Stewart, W. K. Wilson Sur. Loc.

Humble O. & R. Co. No. 1-C Bayou Development Co., J. Sellers Sur. Loc.

Humble O. & R. Co. No. 14-A Stewart, W. K. Wilson Sur. Drlg. sd. 8,547 ft.

Humble O. & R. Co. No. 15-A Maco Stewart, W. K. Wilson Sur. Loc.

Pure Oil Co. No. 4 J. W. Shelor, G. W. Banks Sur. Bldg. drk.

Pure Oil Co. No. 1 Sealy Hutchings, P. G. Merrett Sur. R.U.

Sinclair Prairie Oil Co. No. 1 W. Weems, W. K. Wilson Sur. Loc.

Stanolind O. & G. Co. No. 1 Dameani, W. K. Wilson Sur. Loc.

Greens Lake—Galveston County

Sun Oil Co. No. 6 W. A. Hughes, Wm. Scott Sur. Abd. 6,020 ft.

Silsbee—Hardin County

Humble O. & R. Co. No. 1 Mrs. M. L. Kirby, G. W. Brooks Sur. Loc.

Republic Prod. Co.-Houston Oil Co. No. 5 Brooks, Geo. Brooks Sur. T.D. 6,980 ft.; 7-in. csg. 6,957 ft.; P.B. 6,965 ft.; swabbed S.W.

Republic Prod. Co.-Houston Oil Co. No. 6 Brooks, G. W. Brooks Sur. Loc.

Republic Prod. Co.-Houston Oil Co. No. 7 Brooks, G. W. Brooks Sur. Coring sh. sdy. sh. 6,800 ft.

Republic Prod. Co.-Houston Oil Co. No. 8 Brooks, G. W. Brooks Sur. Loc.

Republic Prod. Co.-Houston Oil Co. No. 1 Ellery, J. Ellery Sur. T.D. 6,973 ft.; swabbed oil and S.W.; P.B. to 6,965 ft.; W.O.C.

Sour Lake—Hardin County

Texas Co. No. 231 fee, Stephen Jackson Lge. Drlg. sh. 1,762 ft.

Clinton—Harris County

Stanolind O. & G. Co. No. 1 D. A. Oates, C. Martinez Sur., Abst. 543. Drlg. sh. and L. 4,966 ft.

Mykawa—Harris County

West Prod. Co. No. 10 W. H. Irwin, W. B. Walker Sur. Drk.

South Houston—Harris County

Stanolind O. & G. Co. Drlg. Dist. No. 16. 13⅜-in.

Stanolind O. & G. Co. Drlg. Dist. No. 28. R.U.

Stanolind O. & G. Co. No. 6 First Natl. Bank, Callahan and Vince Sur. Loc.

Stanolind O. & G. Co. No. 2 J. C. Kelley, H.T.&B. Sur. No. 6. 10¾-in. csg. 1,382 ft.; drlg. sdy. sh. 3,967 ft.

Tomball—Harris County

Humble O. and R. Co. No. 1 Albert Martens, G. Lamb Sur. Drlg. sh. 4,537 ft.

Humble O. & R. Co. No. 5 H. S. Gebhard, W. Perkins Sur. Drk.

Humble O. & R. Co. No. 3 Mueller, T. A. Duclose Sur. Drlg. sh. 4,884 ft.

Humble O. & R. Co. No. 1 Tomball Town site, Wm. Hurd Sur. 9⅝-in. csg. 933 ft.; T.D. 5,500 ft.; I.P. 300 B.P.D. through ¼-in. choke.

Texas Co. No. 4 Ziegler, Wm. Hurd Sur. Drlg. sh. and L. 2,213 ft.

Amelia—Jefferson County

Humble O. & R. Co. No. 1 T. H. Crook, C. Williams Sur. Drk.

Humble O. & R. Co. No. 2 R. J. Peveto, R. J. Peveto Sur. Drlg. sh. 3,430 ft.

Big Hill—Jefferson County

Stanolind O. & G. Co. No. 1 Fitzhugh, McFaddin Sur. 10¾-in. csg. 1,861 ft.; T.D. 4,916 ft. oil sand; reaming.

Fannett—Jefferson County

Gulf Oil Corp. No. 1 Junker, W. A. Smith Sur. Drlg. hard sd. 4,512 ft.

Nome—Jefferson County

Shell Pet. Corp. No. 3 Carpenter, M. Peveto Sur. T.D. 6,055 ft.; 5-in. csg. 6,-010 ft.; I.P. 514 B.P.D. through ¾-in. choke.

Shell Pet. Corp. No. 4 Carpenter, M. Peveto Sur. Loc.

Shell Pet. Corp. No. 4 Paggi, J. W. Kirby Sur. Drlg. sh. 5,720 ft.

Sun Oil Co. No. 1 Long, J. Blair Sur O.W.D.D.; T.D. 9,045 ft.

Sun Oil Co. No. 3 Long, J. Blair Sur T.D. 6,056 ft.; 7-in. csg. 6,006 ft.; I.P. 341 B.P.D. through ¼-in. choke.

Sun Oil Co. No. 1 A. J. Mouboules, J. Blair Sur. 10¾-in. csg. 1,062 ft.; drlg. sh. and L. 5,019 ft.

Cleveland—Liberty County

Gulf Oil Corp. No. 4-C R. D. McDonald, C. Smith Sur. T.D. 5,877 ft.

Hankamer—Liberty County

Gulf Oil Corp. No. 1 Bernice Hankamer T.D. 4,331 ft.; S.D.

Gulf Oil Corp. No. 2-A Weiser, George Stengler Sur. R.U.

Hull—Liberty County

Eclipse Oil Co. No. 1 Barrow. T.D. 5,014 ft.; S.D.

Gulf Oil Corp. No. 22 Baldwin, J. Devore Sur. T.D. 5,239 ft.; tstg. sd. at 4,500 ft.

Republic Prod. Co. No. 1 J. C. Baldwin, J. Devore Sur. Spudded.

Esperson—Liberty County

General Crude Oil Co. No. 24 Moores Bluff. T.D. 4,616 ft.; tstd. S.W. on D.S. T. 4,050-90 ft.

General Crude Oil Co. No. 26 Moores Bluff. Spudded.

Bay City—Matagorda County

Hamman Expl. Co. No. 1 J. H. Crocker, E. Hall Sur. 13⅜-in. csg. 1,260 ft. 9⅝-in. csg. cmtd. at 6,500 ft.; T.D. 9,-575 ft.; 7-in. csg. 9,575 ft.; perf. csg. 8,938-41½ ft. and 8,942-47½ ft., tested mud and S.W. on drill stem test; squeezed off perforations.

Hawkinsville—Matagorda County

Sun Oil Co. No. 2 Craig, T. Williams Sur. Top salt 796 ft.; base salt 2,099 ft. 18⅝-in. csg. 2,174 ft.; T.D. 3,724 ft.; reaming.

Markham—Matagorda County

Texas Gulf Prod. Co. No. 1 McDonald, I. &G.N. Sur. No. 7. Drlg. sh. 4,336 ft.

Turman Oil Co. et al No. 1 Hudson, H. Parker Sur. R.U.

Van Vleck—Matagorda County

Skelly Oil Co. No. 2 W. P. Johnson, M. Cummins Sur. Loc.

Skelly Oil Co. No. 2 Rugely, I.&G.N. Sur. No. 8. 10¾-in. csg. 1,399 ft.

Skelly Oil Co. No. 1 First Natl. Bank, I.&G.N. Sur. No. 7. Drlg. sh. 3,221 ft.

Conroe—Montgomery County

Gar-Flo Oil Co. No. 3 Keystone, A. Steel Sur. Drlg. sh. 4,812 ft.

Houston Oil Co. No. 13 R. L. Cartwright, J. Davis Sur. Drlg. 3,730 ft.

Normandie Oil Corp. No. 1 Koonce, D. W. Collins Sur. Coring 5,050 ft.

Strake Pet. Corp. No. 11-B Dean, W. C. C. Lynch Sur. 10¾-in. csg. cmtd. at 887 ft.; coring 5,027 ft.

Ace—Polk County

Peyton Bros. No. 2-B Kirby & West, G. S. Thomas Sur. Drlg. sh. 800 ft.

Segno—Polk County

J. K. Dorrance No. 2 Wing Estate, I.&G.N. Sur. No. 15. Drk.

Humble O. & R. Co. No. 1 Kirby Lbr. Co., P. Garcia Sur. Loc.

S. J. Ryan No. 1 Wing Est., I.&G.N. Sur. No. 15. R.U.

Greta—Refugio County

Hewitt & Daugherty No. 38 Lambert, Swisher Sur. Drlg. 4,630 ft. No report.

Placedo—Victoria County

Barnsdall Oil Co.-American Liberty Oil Co. No. 8 J. M. Pickering, A. Murray Sur. R.U.

Barnsdall Oil Co.-American Liberty Oil Co., Lot 4, S.A.&M.G. Sur. R.U.

Magnolia Pet. Co. No. 5 Charles Sklar, S. A.&M.G. Sur. Loc.

Magnolia Pet. Co. No. 4 Sklar, S.A.&M.G. Sur. No. 7. Drlg. sh. 3,827 ft.; no report.

Shell Pet. Corp. No. 1 Houston Natl. Bank, S.A.&M.G. Sur. No. 7. R.U.

Sun Oil Co. No. 5 Marek, Lot 89, S.A.&M.G. Sur. No. 8. R.U.

Clay Creek—Washington County

Sun Oil Co. No. 1 H. Lauter, N. Clay Sur 7-in. csg. 7,445 ft.; S.D. 8,306 ft.

Sun Oil Co. No. 7 Schlottman, J. F. Parry Sur. Cg. 1,700 ft.

Five Corners—Wharton County

Texas Co. No. 6-B Pierce, J. Hyland Sur. R.U.

Louise—Wharton County

Pure Oil Co. No. 7 Kountze, Morris & Cummins Sur., sec. 19. T.D. 5,170 ft.; 5½-in. csg. 5,170 ft.; W.O.C.

Spanish Camp—Wharton County

Felmont Oil Corp. et al No. 1 Lyle Logue, D. Wade Sur. T.D. 6,510 ft.; blew out; stuck D.S.; fsg.

Withers—Wharton County

Texas Co. No. 19-C Pierce, Wm. Pettus Sur. T.D. 5,571 ft.; 7-in. csg. 5,562 ft.; flwd. oil and S.W.; P.B. 5,544 ft.; showing gas and little oil.

Texas Co. No. 20-C Pierce, Caldwell Sur. T.D. 5,554 ft.; flwg. oil and wash wtr.

Texas Co. No. 21-C Pierce, Wm. Pettus Sur. R.U.

Texas Co. No. 22-C Pierce, Wm. Pettus Sur. Drlg. sh. 1,848 ft.

GULF COAST WILDCATS

Austin County

R. L. Hopkins No. 1 J. W. Recnecke, J. Stephenson Sur. R.U.

W. H. Mitchell et al No. 1 F. Fenner, J. Fitzgibbons Sur. Abd. 4,200 ft.

Brazoria County

Beatty, Bowles and Borsodi No. 1 Truska, Lot 4, Blk. 8, H.T.&B. Sur. 9⅝-in. csg. 6,430 ft.; T.D. 10,041 ft.; rng. electrical cg. test.

Ohio Oil Co. No. 1 Hazel Roirt, D. McNeil Sur. No. 2. Drlg. sh. 3,608 ft.

Pure Oil Co. No. 1 P. M. Slade, S. F. Austin Lge. Moving in rig.

Texas Co. No. 2 Robbins, James W. Brougham Sur. R.U.

Calhoun County

Matagorda Oil Co. No. 1 Brundet, Tr. 8, Matagorda Island. 13⅜-in. csg. at 1,836 ft.

Mills Bennett No. 1 J. W. Williams, M. Lopez Sur. Drlg. hd. sd. 6,193 ft.; abd.

Colorado County

Coyle-Concord & Sterling No. 1 Mary E. South, I.&G.N. Sur., sec. 41. T.D. 6,189 ft. 8¼-in. csg. 6,187 ft.; P.B. 6,055 ft.; set whipstock at 5,330 ft.; T.D. 6,030 ft.; rmg.

Eden Oil Co. No. 1 Trulia Wells, M. Whitting and Osborne League. 10¾-in. csg. 650 ft.; drlg. sh. 925 ft.

Fayette County

McNeil Pet. Co. No. 1 Dybia, A. Thompson Sur. M.I.R.

Galveston County

Shell Pet. Corp. No. 1 Maco Stewart, Spillman Sur. 9⅝-in. csg. 7,707 ft.; T.D. 10,-460 ft.; P.B. 5,147 ft.; perf. csg. 5,120-25 ft.; blew out making gas, oil and S.W.; shut in.

Shell Pet. Corp. No. 2 Maco Stewart, 4,-400 ft. E of No. 1 J. Spillman Sur. 10¾-in. csg. 1,484 ft.; W.O.C.

Hardin County

T. S. Deskin No. 1 Mary B. Collier, O. C. Nelson Sur. Loc.

E. J. Kimball No. 1 Keitle Lbr. Co. Loc.

Harris County

Farrel and Cox No. 1 Bender, N. W. Travis Sur. S.D. 700 ft.

R. W. Ford et al No. 1 W. A. and O. C. Pruitt, G. Brooks Sur. Loc.

George Lawrence et al No. 1 Zoppa. J Farwell Sur. 10¾-in. csg. 605 ft.; T.D. 6,525 ft.; P.B. to test sd. 6,206-26 ft.; stuck drill pipe at 1,500 ft.; S.D.

H. M. Harrell et al No. 1 F. N. Bullock, Charles Bowman Sur. R.U.

Stanolind O. & G. Co. No. 1 Warren Minerals. H.T.&B. Sur. No. 1. Cg. L. 5,758 ft.

Texas Gulf Prod. Co. No. 1 Gillespie and Garnsey, Simon Contreras Sur. 10¾-in. csg. 1,438 ft.

Houston County

American Liberty Oil Co. No. 1 J. D. Bean, D.W.R.R. Co. Sur. 10¾-in. csg. 1,796 ft.

Arthur Cameron No. 1 A. B. Spence, D. Aldrich Sur. Drlg. sd. 2,550 ft.

Jefferson County

Humble O. & R. Co. No. 1 Jefferson Ld Co., C. Hillibrant Sur. T.D. 8,232 ft.; rng. 7-in. csg.; well attempted to blowout.

Lavaca County

Welshire Union Oil Co. No. 1-A Pohl. F Bass Sur. S.D. 2,395 ft.

Liberty County

Kenco Oil Corp. No. 1 E. B. Pickett, H. T.&B. Sur. No. 10. T.D. 1,251 ft.; 10¾-in. csg. 1,237 ft.; drlg. sdy. sh. 3,828 ft.

Matagorda County

Continental Oil Co. No. 2 Robbins, J. C Franz Sur. T.D. 6,612 ft.; moving in csg.

Glenn McCarthy No. 1 Foley, sec. 19, Susan Perkins Sur. 10¾-in. csg. 2,008 ft. Drlg. sh. 7,363 ft.

J. G. Mayo and Smith and McDannald No. 1 E. L. Calhoun, David Rawls Sur. Abd. 8,006 ft.

Strake Pet. Co. No. 1 G. T. Sargent, L. E. Parker Sur. 13⅜-in. csg. 1,607 ft. T D 6,750 ft.; 9⅝-in. csg. 6,750 ft.; drlg. sh. 8,080 ft.

United North and South Development Co., J. S. Cotton Sur. Drlg. sh. 5,620 ft.

Polk County

Mayo et al No. 1 Catline Mayo, J. G. Loving Sur. Rig.

Refugio County

Paul Meadows No. 1 Temple Lbr. Co., G. W. Main Sur. Drlg. sh. 5,725 ft.

Trinity County

Daniel E. Boone No. 1 Tullia, Wm. Watson Sur. Drlg 2,218 ft.

Tyler County

Republic Prod. Co.-Houston Oil Co. No. 2 Hurd, N. Hurd Sur. Loc.

Victoria County

Magnolia Pet. Co. No. 1 Annie B. Wayne, T.&N.O. Sur. No. A-407. R.U.

Plymouth Oil Co. No. 1-A J. J. Welder, S. A. Beldina Sur. T.D. 403 ft.; W.O.C.; no report.

Walker County

Garland, Hartman & Page No. 1 Carey Ld. & Dev. Co., D. M. McDonald Sur. R.U.

Roswell Oil Co. No. 1 J. Bosborn, J. Jordan Sur. S.D. 520 ft.

Waller County

Sumas Prod. Co. of Austin No. 1 J. J. Menker. 10¾-in. csg. 300 ft.; S.D. 2,100 ft.

H. E. Williams No. 1 T. C. Giddings Est., David Mouser Sur. Drk.

Washington County

Smith & Schlinke No. 1 Woode, J. Clark Sur. S.D. 1,300 ft.

Wharton County

Sam Harrison and others No. 1 Byerly, E.T.R.R. Sur. No. 27. Drlg. sd. 700 ft.

Texas Co. No. 1 Kluck, Jos. Hyland Sur. Drlg. sd. and gravel 39 ft.

S. W. TEXAS WILDCATS

Aransas County

Barnsdall Oil Co. No. 1 Kate J. Edwards, 80 ft. W line, 330 ft. S line, Lot. 87, Lamar Townsite, Wm. Lewis Sur. T.D. 7,996 ft.; blew out and cratered while cg.; bridged; making gas through D.S.; plugged and abd.

Barnsdall Oil Co. No. 1-A Kate Edwards, 330 ft. S line, Lot 85, 660 ft. SW No. 1, Wm. Lewis Sur. R.U.

Atascosa County

Frontier Oil Co. No. 1 Oppenheimer, John Sharp Sur. Set csg. 2,770 ft.; W.O.C.

Bee County

Illinois Pet. Co. No. 1 Hartzendorf, Geo. A. Kern Sur. T.D. 3,907 ft.; perf. 3,648-58 ft.

La Salle Pet. Co. No. 1 Ray, Anna Burk Sur. Drlg. 5,236 ft.

W. C. McBride, Inc., No. 1 Brown & Hansen, J. Pace Sur. R.U.

Blanco County

E. L. Nixon No. 1 Hornberger, 1,200 ft. S line, 300 ft. E line, Sur. 723, Drlg. 637 ft.

Brooks County

Texas Gulf Prod. Co. No. 1 Proctor, 330 ft. S and E lines, Blk. 2, sec. 26, Los Almos and Loma Blanca Surs. R.U.

Burleson County

M. R. Exploration Co. No. 3 Fountain, Wm. Raleigh Sur. M.I.M.

Red Bank Oil Co. No. 2 Grann, 3,063 ft. N line, 1,900 W line, E. Santef Sur. M.I. Rig.

Caldwell County

Exploration Co. No. 1 E. Band, S. Seale Sur. Reworking 2,430 ft.

C. A. McDaniels No. 1 Tinkle, S. Seal Sur. Drlg. 2,452 ft.

George Young No. 1 Schmidt, 1,265 ft. E line, 150 ft. S line, Williams Sur. Set csg. 1,362 ft.; W.O.C.

Cameron County

Saxet Prod. Co. No. 1 Port Isabel Irr. Co., 600 ft. N line Loma Alta Lake, Sh. 29, Espiritu Santo Gr. Loc.

Stapper Petroleum Corp. No. 1 Port Isabel Irrigation Co., Blk. 17, P.I.I.Co. Subd., Santo Gr. Set surf. csg. 1,500 ft.; W.O.C.

Duval County

Argo Oil Co. and Clopton No. 2 Smith-Corkill, Sur. 61. Drlg. 1,663 ft.

Atlantic Ref. Co. No. 1 Hamilton, sec. 37. Loc.

C. K. Gravis No. 1 Holzapfel, N½ Sur. 42. Loc.

Humble O. & R. Co. No. 1 C. D. Sevier, Sur. 329 ft. Drlg. sh. 2,834 ft.

Magnolia Pet. Co. No. 1 D.C.R.C., 330 ft. S and W lines, isc., sec. 902. Loc.

Oliver Oil Co. No. 1 Shaffer, Sur. 146. Drlg. 3,822 ft.

Edwards County

Auld, Dodson & Lyman No. 1 Rigsby, sec. 16. Loc.

I.T.I.O. No. 1 Love & Evans, sec. 66, Blk. 3, G.W.T.&F. Ry. Sur. (Workover). Prep. deepen from O.T.D. 3,002 ft. to 6,250 ft.

Plateau Oil Co. No. 1 R. L. Hatch, sec. 66, J. W. May Sur. S.O. 4,885 ft.; drlg. 5,011 ft.

Fayette County

McNeil Pet. Co. No. 1 Dybola, A. Thompson Lge. R.U.

Goliad County

Rual Singer No. 1 C Wood, Geo. Villa Sur. Drlg. 2,097 ft.

Sun Oil Co. No. 2 Fromme, L. Fulton Sur. Drlg. sh. 4,923 ft.

Gonzales County

M. S. Holliday No. 1 Edwards, W. W. Page Lge. Drlg. 1,356 ft.

Guadalupe County

Felmont Oil Co. No. 1 Willman, J. Cantu Sur. Drlg. 2,036 ft.

Lincoln Pet. Co. No. 1 Baenzinger, Mansola Sur. Set csg. 1,990 ft. Drlg. plugs.

Long & Ross No. 1 Feltz, Dunn Sur. T.D. 633 ft.; S.O.; S.D.

Hidalgo County

Dale Smith No. 1 Fairbanks & Young, Blk. 44, Porc. 46, jurisdiction of Reynosa. Drlg. 2,083 ft.

Sun Oil Co. No. 1-A Sweeny Est., Lot 1, Wayne Wood Subd. No. 2. T.D. 6,598 ft.; stdg.

Jim Hogg County

Gifford Oil Co. No. 1 Armstrong, Sur. 43. 5-min. D.S.T. 3,056-63 ft.; made 400 lbs. dry gas; sd. 3,056-61 ft.; cg. 3,093 ft.

S. Payne No. 1 Holbien, 150 ft. N and W lines, Blk. 10, Sh. 3, Animas Gr. R.U.

Karnes County

De Graff & Reele No. 1 Cochran, 460 ft. E line, 160 ft. S line, McConnell Lge. Drlg. 573 ft.

L. Glasscock No. 1 Conway, 146-ac. tr., J. Johnson Sur. Set csg. 3,308 ft.; drlg. 3,317 ft.

Victoria Drlg. Co. No. 1 John Yanta, J. Hardaway Sur. Drlg. 1,367 ft.

Victoria Drlg. Co. No. 1 Wm. Yanta, J. Hardaway Sur. M.I.M.

Live Oak County

H. Coquat No. 1 L. Reagan, Santiago McGloin Sur. Drlg. 2,037 ft.

Dirks Bros. No. 1 Dilworth, 150 ft. S and E lines, 40-ac. tr., Refugio Sch. Lands Sur. T.D. 3,400 ft.; D.&A.

R. H. Feltner No. 2 Sanger, 330 ft. W line, 990 ft. N line, Sur. 385. Loc.

Loma Oil Co. No. 2 Cardwell, 95-ac. tr., Sparks Sur. Loc.

Reynolds & Richardson et al No. 1 Geo. West, 330 ft. N and W lines, sec. 515, J. Poitevent Sur. M.I.M.

R. B. Sanger No. 1 Adams, 330 ft. N and E lines, 80-ac. tr., Sur. 122. R.U.

McMullen County

Big Rock Oil Corp. No. 1 Martin, Uleiting Sur. No. 6. Cg. 532 ft.

Rowan & Hope No. 1 Rhodes, NE¼ sec. 18, Seale & Morris Sur. M.I.M.

Medina County

F. Brown No. 1 Bilharts, J. Campbell Sur. 24. Set sur. csg. 200 ft.; W.O.C.

A. Chmel No. 1 Odem, 160 ft. W line, 493 ft. N line tr., Castro Sur. 174. M.I.M.

R. P. Whitfield No. 1 Odem, Henry Castro Sur. 177. Cg. 697 ft.

W. H. Wycoff No. 1 Bendele, 1,275 ft. W line, 150 ft. N line, Joe Barnhart Sur. 593. Drlg. 316 ft.

Nueces County

Allen & Seaboard Oil Corp. No. 2 Chapman, 660 ft. S and W lines, sec. 38, 10-min. D.S.T. 5,050-66 ft.; rec. 400 lbs. wet gas and 60 ft. mud and gaso.; drlg. ahead; sd. 5,069 ft.

Cowan & Storey No. 1 Smith, Blk. 22, sec. 38, Flour Bluff and Encinal Garden Trs. Drk.

E. M. Jones No. 1 Cook, 2,500 ft. N line, 330 ft. E line, 546-ac. tr., Guadrilla Irr. Co. Sur. 139. Loc.

Mills Bennett Prod. Co. No. 1 Lamb, 330 ft. E Mathis Highway, 330 ft. N line, 80-ac. tr., 527.4-ac. tr., V. Lopez de Herrera Sur. Set 10¾-in. csg.; T.D. 1,040 ft.; W.O.C.

Sloan & Green No. 1 Cassens, sec. 26, Longorio Sur. R.U.

Steve Paul No. 1 Smith, 1,650 ft. E line, 330 ft. S line, sec. 38, Flour Bluff Encinal Trs. Loc.

Baltic Drlg. Co. No. 1 Poenisch, Lot 2, Blk. 32, Flour Bluff Addn. (workover of former Hurlburt test). O.T.D. 6,250 ft.; R.U.; S.D.

Real County

Sun Oil Co. No. 1 Dietert, 1,980 ft. E line, 660 ft. S line, sec. 7, G.W.T.&B Sur. Drlg. 4,767 ft.

San Patricio County

Buckingham Oil Co. No. 1 G. Davis, Sec. 27. Loc.

W. B. Craig No. 1 Drainage Ditch, M Remon Sur. Drlg. 3,956 ft.

L. A. Douglas and J. O. Williams No. 1 Kokernot, 90-ac. tr., sec. 19. Drlg. 6,473 ft.

Eleanor Oil Co. No. 1 Green Est., 1,674-ac. tr., T. T. Williamson Sur. Loc.

Windsor Oil Co. No. 1 Bissett, Tr. 3 Tivoli Subd., Crockett Sur. Loc.

Starr County

J. F. Anderson No. 1 Yzagierre, Tr. 1 Porc. 79, J. of Camargo. Cg. 3,256 ft.

Dodd Trustee No. 1 Garcia, Porc. 84. S.D. 1,507 ft.

Dodd Trustee No. 1 Wood Estate, Porc. 84. Cg. 1,386 ft.

Sun Oil Co. No. 1 Orr, 330 ft. N and W lines, Porc. 103. Set csg. 94 ft.; T.D. 3,517 ft.; P.B. 2,679 ft.; tested S.W. at 2,130-40 ft.; D.&A.

Webb County

O. W. Killam No. 1 fee, Sur. 1,690. Drlg. 2,463 ft.

Lu-Tex Oil Co. No. 1-A Lone Star Constr Co., Blk. 26, Porc. 12, 13 and 14. Drlg 1,521 ft.

Mills Bennett Prod. Co. No. 1 Garza, 330 ft. S line, 2,198 ft. E line, sec. 711. Sd. 2,663-74 ft.; tstd. S.W.; D.&A.

Mills Bennett Prod. Co. No. 1 J. K. Kirkpatrick, Sur. 14. Loc.

Mills Bennett Prod. Co. No. 1 Martinez, Blk. 84, Sh. 1, E. P. Grullo Gr. Loc.

Paul Meaders No. 1 Garcia, Blk. 12, Sur. T.D. 2,423 ft.; D.&A.

Wilcox O. & G. Co. No. 1 Dunbar, Sur. 2,292, J. Galen Gr. R.U.

Willacy County

Ruez-Morton, Inc., No. 1 F. Armendias C Lot 9, Sh. 4, San Juan de Carricitos Gr. M.I. rig.

Ruez-Morton, Inc., No. 1 Johnson-Stillman, Lot 14, Blk. 25, Sh. 44, San Juan de Carricitos Gr. R.U.

Shell Pet. Corp. No. 1 Yturria, Sh. 64, San Juan de Carricitos Grant (workover). T.D. 7,662 ft.; to drill deeper; R.U.

Zapata County

Ivan Howard and R. F. Duggan No. 1 Cuellar Bros., Sur. 248. R.U.

Jennings No. 1 Martinez, Sur. 434. T.D 150 ft.; S.D.

J. D. Long No. 1 Phelps, 200-ac. tr., Villa Gr. Oil sd. 1,593-97 ft.; set 5½-in. csg.; sat. sd. 1,600-04 ft.; tstd. S.W.; S.D.; W.O.O.

R. Wheeler No. 1 Welch, Blk. 1, E. K. Bateman Subd. Loc.

Zavalla County

Wilcox O. & G. Co. No. 1 Gillman, sec 11. Drlg. 1,426 ft.

S. W. TEXAS PROVEN

McCampbell—Aransas-San Patricio Counties

Atlantic Ref. Co. No. 2-B McCampbell, Lot 8, Blk. 39. Set csg. 6,549½ ft.; comp.; 121.32 B.P.D. on 9/64-in. ck.; blew out after comp.; killed and reworked; swbg. in.

Buckingham Oil Co. No. 3-A McCampbell, 660 ft. S of No. 1-A, Blk. 42. Drlg. 4,283 ft.

Buckingham Oil Co. and Jones No. 1-B McCampbell, Lots 13 and 14, sec. 40. Drlg. 2,576 ft.

Collins & Broughton No. 1 McCampbell, 330 ft. NE and NW lines, Blk. 10, McCampbell Subd. R.U.

J. Nelson No. 1 Riggs, 330 ft. NW line, 213 ft. SW line, 6.46-ac. tr., Trs. 12 and 13, Blk. 16. Loc

Hilbig—Bastrop County

Joe E. Mills No. 1 Askew, 600 ft. NW line, 1,525 ft. SW line, 278.5-ac. tr., Wolfenberger Sur. T.D. 2,907 ft.; S.D.

Cosden—Bee County

Elwood & Young No. 2 Barnett, John Place Sur. Sd. 3,636-53 ft.; S.O.; P.B. 3,960 ft.; T.D. 4,050 ft.; S.D.; W.O.O.

Plummer—Bee County

W. C. McBride No. 1 Plummer, 34-ac. tr., sec. 33, Plummer-Chessman Sur. Loc.

Alta Mesa—Brooks County

Standard of Texas No. 2 Mestina, La Mestina de Gonzalina Gr. Drlg. 987 ft.

Standard of Texas No. 3 Mestina, La Mestina de Gonzalina Gr. Set csg. 1,216 ft.; W.O.C.

Alta Verde—Brooks County

L. & W. Oil Co. No. 1 Wm.Singer, Blk. 8, Sur. 436. Sd. 515-20 ft.; T.D. 1,003 ft.; set 4½-in. csg. 934 ft.; W.O.C.; T.D. 948 ft.

Branyon—Caldwell County

Adams & Lyles No. 3 Ellison, D. Cooper Sur. Cg. 2,047 ft.

R. B. Byrd No. 1 McGee, J. A. Neal Sur. Drlg. 212 ft.

Colby O. Co. No. 2 McCrory, 20-ac. tr., J. Neil Sur. Loc.

Lincoln Pet. Co. No. 4 Branyon, Cooper Sur. Loc.

Mee, Ames & Mee No. 2 Lancaster, D. Cooper Sur. M.I.M.

Strickland No. 1 Callihan, J. R. Miller Sur. Drlg. 1,821 ft.

Taylor Pet. Co. No. 1 Caldwell County, 4-ac. tr., D. Cooper Sur. Drlg. 566 ft.

Whisenant & Trenchard No. 2 Magee, J. A. Neal Sur. Spdg.

Whisenant & Trenchard No. 1 Young, J. R. Miller Sur. T.D. 2,225 ft.; R.U. to pmp.

Slick—DeWitt County

Southwestern Dev. Synd. No. 1 Potter, O. Marshall Sur. Drlg. 3,097 ft.

Charamousca—Duval County

N. V. Duncan No. 3 Worden-Drought, 3,625 ft., El. 334 ft. NL, Sur. 151, D.S.T. 1,527-33 ft.; 500 ft. oil in 10 min.; blew out making oil; shut in; comp. 5 B.P.H. on ½-in. ck.; sd. 1,531-37 ft.

N. V. Duncan No. 3 Worden-Drought, Sur. 151. R.U.

Colmena—Duval County

Conservative Oil Co. No. 2 D.C.R.C.-Senta 133 ft. N Eline, 1,200 ft. SE line, Blk. 11 sec. 51. S.D. 1,544 ft.

Wellington Oil Co. No. 1 D.C.R.C., 330 ft. N and W lines, Blk. 11, sec. 51. Loc.

Driscoll—Duval County

Continental Oil Co. No. 13-A Sevier, Sur 448. M.I.M.

El Mesquite—Duval County

Rogers & Rogers No. 3 Pena, El Mesquite Gr. R.U.

Government Wells—Duval County

Magnolia Pet. Co. No. 10 Lundell, Sur. 60. R.U.

San Diego Oil Corp. No. 5 Bennett, 330 ft. N and E lines, SE¼, SW¼, Sur. 44. T.D. 2,405 ft.; swbg. sd. 2,351-65 ft.

San Diego Oil Corp. No. 1 Millard, Sur. 64. R.U.

Reed & McKay No. 13 Lundell, Sur. 60. Drlg. 2,167 ft.

Southwest Drlg. Co. No. 2 Hahl, Sur. 44. Drlg. 2,317 ft.

Hoffman—Duval County

Bridwell Oil Co. No. 2 Hoffman, 80-ac. tr., Sur. 111. T.D. 2,812 ft.; comp. pumping 48 B.P.D.

Bridwell & Gorman-Yoakam No. 4 Robles, sec. 68. T.D. 2,820 ft.; comp. 114 B.P.D. on pump.

Bridwell Oil Co. No. 5 Robles, sec. 61. Tstg. sd. 2,696-99 ft.

Bridwell Oil Co. No. 6-B Sutherland, 990 ft. S and E lines, Sur. 122. Drlg. 2,427 ft.

Duval Oil Corp. No. 7 Hoffman, Sur. 110. Sd. 2,877-86 ft.; set csg. 2,871 ft.; comp. 225 B.P.D.

Duval Oil Corp. No. 8 Hoffman, Sur. 110. Tstg. sd. 2,855 ft.

Duval Oil Corp. No. 9 Hoffman, Sur. 110. R.U.

Plymouth Oil Co. No. 4 Hoffman, sec. 117. T.D. 2,826 ft.; P.B. Govt. Wells sd.

Standard of Kansas No. 2 Green, Sur. 110. T.D. 2,734 ft.; comp. 75 B.P.D.

Standard of Kansas No. 3 Green, Sur. 110. Drlg. 297 ft.

Kohler—Duval County

Chiquita Oil Co. No. 1 Peters, 162-ac. tr., Sur. 162. Loc.

Humble O. & R. Co. No. 3 Peters, sec. 330. Flwg. 10 bbls. fluid for 17 hrs., 35% wtr.; T.D. 2,658 ft.; P.B. 2,655 ft.; reworking.

Sun Oil Co. No. 1 Peters, 330 ft. S and W lines, Sur. 161. Set csg. 2,446 ft.; comp.; gasser; spraying oil.

Windsor Oil Co. No. 5-B Peters, Sur. 34. Loc.

Labbe—Duval County

Magnolia Pet. Co. No. 2 Labbe ranch, 990 ft. S and W lines, sec. 1. Sd. 2,904-10 ft.; D.S.T. 290 ft. P.L.O. in 10 min.; set 7-in. csg. 2,910 ft.; deepened to 2,915 ft.; T.D. 3,249 ft.; P.B. 2,908 ft.; S.O.

Loma Novia—Duval County

Duval Oil Corp. No. 28 Bishop, sec. 67. T.D. 2,743 ft.; D.&A.

Eastern Texas Prod. Co. No. 5 Hubbard, Sur. 71. R.U.

Hamil & Smith No. 2 Ruiz, Sur. 41. Drlg. 1,114 ft.

Humble O. & R. Co. No. 26-B Hubbard, Sur. 42. M.I.M.

Humble O. & R. Co. No. 32-B Hubbard, Sur. 72. Loc.

Humble O. & R. Co. No. 22 Ruiz, sec. 553 Drlg. sh. 2,767 ft.

Humble O. & R. Co. No. 12 Vela, sec. 42. T.D. 2,779 ft.; set csg. 2,755 ft.; comp. 6 B.P.H. on ½-in. ck.

Magnolia Pet. Co. No. 56 Hahl, Sur. 67. Tstg. 2,755 ft.

Magnolia Pet. Co. No. 9 Herbst, Sur. 70 Sd. 2,728-40 ft.; set csg.; W.O.C.

Magnolia Pet. Co. No. 11 Herbst, Sur. 78. Sd. 2,722-36 ft.; set csg. 2,736 ft.; comp. 10 B.P.H.

Rosan Oil Co. No. 4-A Hubbard, Sur. 71. M.I.M.

Russ Pet. Co. No. 8-D Ruiz, SW¼ SE¼, sec. 64. Drlg. 2,227 ft.

Stieren Oil Co. No. 9 Wright, Sur. 72. Sd. 2,612-25 ft.; comp. 41 B.P.D. on pump.

Tarner Drlg. Co. No. 1 Wright, Sur. 44. Drlg. 307 ft.

Texas Co. No. 1 L. C. Morris, sec. 133. Drlg. 2,823 ft.

Lopez—Webb—Duval Counties

Gem Oil Co. No. 2 Peal, Sur. 72. M.I.M.

Humble O. & R. Co. No. 1 D.C.R.C., Sur. 901. Sd. 2,119-31 ft.; comp. 15 B.P.H.; T.D. 2,131 ft.

Humble O. & R. Co. No. 7-C D.C.R.C., Sur. 901. Set csg. 2,145 ft.; W.O.C.

Magnolia Pet. Co. No. 32 Peal, Sur. 902. Set csg. 1,341 ft.; W.O.C.

Mortimer & Springer No. 17-B Peal, NW¼, Sur. 796, S.D.; repairs 2,143 ft.

Mortimer & Springer No. 19-B Peal, NW¼, Sur. 796. Tstg. sd. 2,142 ft.

Mortimer & Springer No. 20-B Peal, NW¼, Sur. 796. Drlg. 170 ft.

Sierra O. & Roy. Co. No. 6 Billings, SW¼, Sur. 113. Rng. csg. 2,206 ft.

Sierra O. & Roy. Co. No. 8 Billings, SW¼, Sur. 113. Comp. 240 B.P.D.; T.D. 2,200 ft.

Texas Co. No. 10-A D.C.R.C. Sur., Lot 19, sec. 196. T.D. 2,405 ft.; D.&A.

Peters—Duval County

Rio Bravo Oil Co. & Coates No. 2-C Peters, Sur. 398. Drlg. 1,267 ft.

Windsor Oil Co. No. 1 Peters, Sur. 34 (workover). Sd. 2,655-56 ft.; sh. and L. 2,656-61 ft.; rng. tbg.

Windsor Oil Co. No. 5-B Peters, Sur. 34. Reworking.

Piedra Lumbre—Duval County

Magnolia Pet. Co. No. 10 D.C.R.C., Sur. 100. Set csg. 1,958 ft.; W.O.C.

Sarnosa—Duval County

Humble O. & R. Co. No. 1 Arnstine, 320-ac. tr., sec. 130. T.D. 2,432 ft.; set csg. 2,412 ft.; comp. 216 B.P.D.; T.D. 2,434 ft.

Humble O. & R. Co. No. 2 Arnstine, Sur. 130. Drlg. sh. 2,036 ft.

Seven Sisters—Duval County

W. W. Blocker No. 3 Benton-Coopwood, Sur. 382. Spdd.

Humble O. & R. Co. No. 25 Badgley, Sur. 307. Comp. 20 B.P.H. on ⅝-in. ck.; T.D. 2,489 ft.

Humble O. & R. Co. No. 26 Badgley, Sur. 307. Drlg. 2,437 ft.

Humble O. & R. Co. No. 3 Dowdy, sec. 372. Loc.

Humble O. & R. Co. No. 37 Smith, Sur. 382. Comp. 142 B.P.D. jetting; T.D. 2,457 ft.

Humble O. & R. Co. No. 48 Smith, Sur. 382. Drlg. sd. 2,476 ft.

Relience Oil & Roy. Co. No. 20 Drummond, Sur. 308. Sd. 2,470-2,501 ft.; set csg. 2,495 ft.; comp. 450 B.P.D.; T.D. 2,502 ft.

Relience Oil & Roy. Co. No. 1-A Lichtenberger, sec. 225. R.U.

Texas Co. No. 9 Badgley, Sur. 307. Comp. 336 B.P.D.; sd. 2,458-85 ft.

Westheimer & Daube No. 30 Campos, Sur. 224. R.U.

Sweeden—Duval County

Hiawatha O. & G. Co. No. 1 Herberger, 330 ft. S and W lines, sec. 10, Agua Poquita Gr. R.U.

Hiawatha O. & G. Co. No. 1 Miller, 330 ft. N and E lines, sec. 24, Agua Poquita Gr. Set csg. 920 ft.; W.O.C.

Pearsall—Frio County

Amerada Pet. Corp. No. 7 Oppenheimer, 1,320 ft. W line, 330 ft. S line, Gibson Sur. 16. (W.O.); stdg. 5,573 ft.; R.U.

North Pettus—Goliad-Karnes Counties

Diamond Halff Oil Co. No. 1-C Gillette, 746-ac. tr., J. Gomez Sur. Sd. 3,668-3,676 ft.; completing.

Magnolia Pet. Co. No. 7 Weldon & Lackey, 210-ac. tr., J. Gomez Sur. T.D. 4,540 ft.; D.&A.

Clark—Guadalupe County

Diamond Halff Oil Co. No. 2 Larison, G. DeWitt Sur. Spudded.

Marts & Bevins No. 2 Grim, G. DeWitt Sur. 12. Drlg. plug. 2,426 ft.

D. Mulholland No. 1 Johns, J. K. Davis Sur. M.I.M.

Darst Creek—Guadalupe County

Freeman Oil Co. No. 3 Larrison, G. DeWitt Sur. 13. Loc.

La Jita Corp. No. 2 Denmann, 50-ac. tr. Set csg. 2,332 ft.; S.O.; W.O.C.

Saxet Prod. Co. No. 1 Inman, G. DeWitt Sur. Spudded.

V. G. Schimmel No. 2 Grimm, Dewitt Sur. T.D. 2,525 ft.; W.O. pump.

Nolte—Guadalupe County

Biddle Oil Co. No. 2 Nolte, Lowell Sur. 16. R.U.

LaBlanca—Hidalgo County

Gulf States Oil Co. No. 3 Engleman, Lot 3, Blk. 70, Las Mestanas Gr. (workover). O.T.D. 6,812 ft.; P.B. 6,692 ft.; R.U. to D.D.

Pantana Pet. Co. No. 1 MacDougall, Lot 232, sec. 249. T.D. 3,077 ft.; making 2.5 B.P.H. 55 grav. oil; comp. 40 B.P.D. dist. and gas on ¼-in. ck.; T.P. 3,000 lbs.; C.P. 3,400 lbs.; shut in.

Sterling O. & R. Co. No. 1 Engleman, 660 ft. N and E lines, Lot 8, Blk. 95. Set surf. csg. 1,250 ft.; drlg. sh. 4,727 ft.

Sanfordyce—Hidalgo-Starr Counties

Ralph Fair No. 1 Flores, 30-ac. tr., Sh. 250, Porc. 38. Spudded.

E. A. Graham No. 1 Yturria Ld. & Livestock Co., Tr. 9, Porc. 100. Cg. 2,872 ft.

Harrison & Danvers No. 5-A Guerra, 30.78-ac. tr., Tr. 251, Porc. 38. Drlg. 1,572 ft.

Young & Bonnear No. 1 Diaz, Tr. 331, Porc. 40. M.I.M.

Alworth—Jim Hogg County

French Oil Co. No. 4 Garza, Blk. 1, Sur. 369. S.D. 2,454 ft.

Colorado—Jim Hogg County

J. H. Meek, No. 5-A Martinez, 1,650 ft. E line, 1,650 ft. N line, Sur. 623. T.D. 3,393 ft.; top sd. 2,997 ft.; set csg.; swbg. in.

Rancado—Jim Hogg County

Rancado O. Corp. No. 36 Palacious, Blk. 18, Sur. 391. Tstg. sd. 1,283-87 ft.

Benavville—Jim Wells County

Danciger Oil Co. No. 1 Bird, de la Garcia grant. M.I.M.

Tom Graham No. 2 Luby, Share 4, Los Presnos de Abajo Gr. Drlg. 5,136 ft.

Stanolind O. & G. Co. No. 1 Bird, de la Garcia Gr. Cg. 5,107 ft.

Stanolind O. & G. Co. No. 3 King, 990 ft. N, 330 ft. E. NE cor. sec. 20, in sec. 9. T.D. 6,026 ft.; D.&A.

Stanolind O. & G. Co. No. 2 Pope, sec. 13, King Farm Lots. Drlg. 1,127 ft.

Tan-Bay Oil Co. No. 1 Lozana, Lot 111, sec. 36. T.D. 2,384 ft.; D.&A.

Premont—Jim Wells County

Francis & Simonton No. 1 A. Lozana, Jr., 185 ft. E line, 165 ft. S line, Lot 111, sec. 36. S.D. 2,381 ft.

Tom Graham No. 2-A Bennett, 660 ft. E of No. 1-A. Drlg. 2,031 ft.

Tom Graham No. 1 Johnson, cen. Lots 86 and 91, sec. 76, Holdeman Subd. Sd. 2,344-55 ft.; comp. 5 B.P.H.

Tom Graham No. 2 Johnson, Lot 76, Sur. 215. Spdg.

Tom Graham No. 1 Wm. Singer, C Lots 71 and 74, Sur. 76. T.D. 3,400 ft. P.B. 3,163-67 ft.; perf. 3,157-64 ft.

W. F. Morgan No. 1 Laughlin, C Lots 39 and 42, sec. 72, Sur. 231. Set csg. on sd. 2,356 ft.; comp. 175 B.P.D.

Richardson, Ware & Richardson No. 1 Miller, cen. Lots 40 and 41, Holdeman Subd., sec. 71. Loc.

S. J. Sloan No. 1 Nash, Lot 102, Holdeman Subd., sec. 75. R.U.

Sandia—Jim Wells County

O. W. Killam No. 3 Wade, Blk. 40-A, Lopez de Jean Gr. D.S.T. 3,981-4,021 ft.; 400 lbs. gas and 90 ft. oily mud in 9 min.; sd. 4,013-21 ft.

J. E. Walsh No. 2 Wade, Lot 2, Blk. C Bode Subd. Tstg. 2,910 ft.

Kingsville—Kleberg County

Great States Oil Co. No. 1 Kivlin, Blk. 4, sec. 39. S.D. 2,250 ft.

Oakville—Live Oak County

Simmons O. & G. Co. No. 1 Reagan, Romero Sur. T.D. 3,059 ft.; D.&A.

Calliham—McMullen County

S. P. Lightfoot No. 9 Lark, Blk. 118, Scrugham Sur. Loc.

Loma Oil Co. No. 107-A Jacob, Sur. 516. Spudding in.

Rhodes—McMullen County

Rowan & Hope No. 2 Edrington, 80-ac tr., Sur. 81. Set csg. 1,790 ft.; W.O.C.

Ina—Medina County

Ina O. & R. Co. No. 3 Viola Wilson, Durst Sur. Drlg. 400 ft.

Agua Dulce—Nueces County

Lockhart Bros. No. 1 Elliff, 4,501 ft. E line, 466 ft. S line, 3,054.9-ac. tr., Antonio Longorio Gr. Drlg. 6,447 ft.

Stoddart & Moss No. 1 Colman, 330 ft. NW and NE lines, SE¼ SW 330-ac. tr. sec. 206, S.D. 6,885 ft.; blew out and closed in; to attempt comp. through drill stem.

Texon Drlg. Co. No. 2 Elliff, 5,580 ft. S line, 466 ft. E line, 3,054.9-ac. tr., Antonio Longorio Gr. Abd. loc.

Texon Drlg. Co. No. 2-B Sevier, 880-ac. tr., W. W. Chapman Lds., Palto Alto Gr. Set 16-in. csg. 300 ft.; drlg. 5,763 ft.

United Prod. Co. No. 1 Harvey, 1,100 ft. W line, 1,050 ft. N line, tr., M. Garza Sur. Drlg. 5,487 ft.

Clara Driscoll—Nueces County

Blanco Oil Co. and Buchanan No. 1 W. S. Gandy, 330 ft. S and W lines, E½ sec. 60. Cg. 7,161 ft.

Hiram Reed No. 2 Roper, C Lot 1, sec. 108. Perf. 3,901-05 ft.; gas and wtr.; to P.B. and perf. in 3,800-ft. sd. W.O.W.

Houston Oil Co. No. 1 Sevier, 330 ft. S and W lines, 77.1-ac. tr., Quadrilla Irr. Co., Sur. Loc.

Magnolia Pet. Co. No. 2 Sevier, 330 ft. S and W lines, 80-ac. tr., R. Russell Sur. Spudded.

Mid-Continent Pet. Corp. No. 2 Sevier, 80-ac. tr., Russell Sur. Sd. 3,810-13 ft.; comp. 163 B.P.D. on 13/64-in. ck.

H. M. Reed No. 1 Holloway, 330 ft. S and E lines, 51.8-ac. tr., sec. 108. Perf. 3,902-04 ft.; flw. brackish wtr.; S.D.

Wellington Oil Co. No. 1-A Sevier, 125 ac. tr., Wm. Gamble Sur. Set csg.; T.D. 6,075 ft.; perf. 5,348-54 ft.; making dist. and gas; C.P. 1,875 lbs.; T.P. 1,950 lbs. stdg.

Wellington O. Co. No. 4 Sevier, 254-ac. tr., Wm. Gamble Sur. Sd. 3,809-15 ft.; completing.

Flour Bluff—Nueces County

Humble O. & R. Co. et al No. 2-A Miller, Blk. 25, sec. 47. Drlg. sh. 3,287 ft.

Humble O. & R. Co. et al No. 1-B Miller, Blk. 5, sec. 48. Drlg. sh. 5,797 ft.

Humble O. & R. Co. et al No. 6 Phillips, Lot 11, Blk. 55. R.U.

Humble O. & R. Co. et al No. 8 Phillips, Lot 2, Blk. 55. Sd. 6,633-48 ft.; comp.; no gauge.

Humble O. & R. Co. et al No. 2 Reed, Blk. 29, sec. 47. Drlg. 5,296 ft.

Humble O. & R. Co. et al No. 3 Webb, Lot 10, Blk. 47. T.D. 6,678 ft.; comp. 120 B.P.D. on ½-in. ck.

Humble O. & R. Co. No. 2 Webster, Blk 25, sec. 48. Set sur. csg. 1,041 ft.; W.O.C.

S. Paul No. 1 Moulter, Blk. 16, sec. 41, Encinal Garden tracts. Loc.

London—Nueces County

Cosner & Cosner No. 1 Stockton, 330 ft. N and E lines, SW¼, NE¼, sec. 25. Loc.

Cosner & Cosner No. 2 Stockton, 330 ft. S and E lines, SW¼, NE¼, sec. 25. Loc.

Saxet Heights—Nueces County

Baltic Drlg. Co. No. 1 Dickson, Blk. 13, Oak Park Addn. S.D.

W. C. Brady No. 1 Guy, C Lot 45, Country Club Addn. M.I.M.

Callihan Bros. and Whitley No. 1 Hartley, Villareal Sur. R.U. and S.D.

W. H. Harrison Drlg. Co. No. 1 Saunders, Blk. 13, Oak Park Addn. S.D.

Chas. F. McGrew No. 2 Kelly, 19-ac. tr. Sd. 4,060-90 ft.; set csg.; S.O. jetted S.W.; S.D.

W. N. Paul No. 2 Schallert, C Blk. "C," Harbor View Addn. S.D. 1,800 ft.; W.O.

Pedernal Oil Co. No. 1 John, Blk. 14, Oak Park Addn. S.D. 4,110 ft.; orders.

Port Oil & Gas Co. No. 3 Corpus Christi College, 500 ft. S No. 2, Villareal Sur. Comp. 77 B.P.D. on 3/16-in. ck.; T.D 4,078 ft.

Sam Wilson, Jr., No. 2 McCaughan, Lots 1, 2 and 20, Blk. 9, Oak Park Addn. Comp.; no gauge; T.D. 2,078 ft.

Saxet—Nueces County

C. Andrade No. 5 Frank, Sur. 416. Sd. 5,825-36 ft.; set csg. 5,836 ft.; comp.; no gauge.

C. Andrade & Renwar Oil Co. No. 7 Frank, Sur. 416. M.I.M.

Benson Drlg. Co. No. 1 Morgan, 330 ft. N and W lines, 40-ac. tr., Sur. 315 (W.O.); Old T.D. 4,483 ft.; R.U. to D.D.

Ben-Tex Oil Co. No. 2 Harmon, 990 ft. S line, 330 ft. E line, 50-ac. tr., Sur. 416. T.D. 6,485 ft.; S.D.

Bryant & Howell No. 1 Plachy, 330 ft. N line, 990 ft. E line lse., Smith Sur. 25. T.D. 4,825 ft.; P.B. to test sd. 4,190-4,225 ft.

Bryant & Howell No. 1-A Kocurek, 330 ft. N line; 580 ft. E line 53-ac. tr., Sur. 25. T.D. 4,601 ft.; set csg. 4,423 ft.; perf. 3,850-62 ft.; flowed oil and S.W. and went dead; swbg.

R. B. Bryant No. 8 Scoggins, 94-ac. tr., Sur. 315. S.D. 4,565-72 ft.; perf. 4,562-67 ft.; comp. est. 360 B.P.D.

W. W. Chapman No. 5 Morgan-Clark, Sur. 405. (W.O.); old T.D. 6,401 ft.; drlg. 6,624 ft.

Conservative Oil Co. No. 1-A R. Morgan, 80-ac. tr., Sur. 315. Set csg. on sd. 4,451-54 ft.; sdtrk. hole.

Conservative Oil Co. No. 4-B Morgan, 330 ft. N line, 1,984 ft. W line, lse., Sur. 403. T.D. 6,977 ft.; P.B. to test sd. 5,740 ft.

Crown Central Pet. Corp. No. 4-B Morgan, 80-ac. tr., Surs. 315 and 592. Sd. 4,444-45 ft.; set csg.; W.O.C.

Crown Central Pet. Corp. No. 5-A Morgan, Sur. 315. Drlg. 2,136 ft.

Crown Central Pet. Corp. No. 5-BB Morgan, 80-ac. tr., Surs. 315 and 592. Sd. 4,448-53 ft.; comp. 116 B.P.D. on 3/16-in. ck.

Crown Central Pet. Corp. No. 2-C Morgan, 20-ac. tr., Sur. 315. Sd. 4,426-31 ft.; tstg.

L. Glasscock No. 3 Hunter, 990 ft. N line, 330 ft. W line, 160-ac. tr., Dunn Sur. 312. T.D. 1,200 ft.; blew out; shut in; stdg.

L. Glasscock No. 1-B Johns, 20-ac. tr., McGregor Sur. Sd. 4,856-64 ft.; set csg.; W.O.C.

Great States Oil Co. and Violet Oil Corp. No. 7 McGregor-Belk, Sur. 311. D.S.T. 6,318-26 ft.; recd. 1,000 ft. oil, 90 ft. S.W.; sd. 6,208-26 ft.; set csg. 6,326 ft.; cleaning into pits.

W. H. Harrison Drlg. Co. No. 1 Taggert, 50-ac. tr., Sur. 401. M.I.M.

Hiawatha O. & G. Co. No. 1 Hutchins-Stillwell, Lot 34, Sheppard Lds. Set whipstock 5,750 ft. to sdtrk.

Hiawatha Oil Co. No. 9 Hutchins-Stillwell, Lot 34, Sheppard Lds. Drlg. 4,831 ft.

Hiawatha Oil Co. No. 4-A Smith, 98-ac. tr., Sur. 500. Sd. 5,802-32 ft.; set csg.; W.O.C.

W. B. Hinton No. 4 Cole, 330 ft. N and W lines, 60-ac. tr., Villareal Sur. Sd. 4,867-76 ft.; T.D. 4,881 ft.; D.&A.

W. B. Hinton No. 5 Cole, 330 ft. N line, midway between Nos. 3 and 4, 60-ac. tr., Villareal Sur. Loc.

Houston Oil Co. No. 12 McGregor, 135-ac. tr., Sur. 582. W.O. rig.

Houston Oil Co. No. 14 Morgan, 2,310 ft. S line, 330 ft. W line, 493-ac. tr. T.D. 4,865 ft.; perf. 4,415-26 ft.; reworking to comp.

Houston Oil Co. No. 17 Morgan, sec. 7, Rge. 5. Set csg. 4,556 ft.; completing.

Houston Oil Co. No. 18 Morgan, sec. 7, Rge. 5. Drlg. 237 ft.

H. H. Howell No. 1 Hutchins, 330 ft. N and E lines, 80-ac. tr., Sur. 416. Perf. 6,716-29 ft.; comp. 180 B.P.D.

H. H. Howell No. 2 Hutchins, 80-ac. tr., Sur. 416. Drlg. 4,137 ft.

H. H. Howell No. 1 R. Morgan, Blk. 3, Roberts Subd., Sur. 415. Spdg.

Magnolia Pet. Co. No. 5 Walton, Page Lds. Sur. Swbg. in; T.D. 4,874 ft.

Maryland Corp. No. 6 Morgan, Sur. 592. Drlg. 2,737 ft.

Maryland Corp. No. 1 Stillwell-Sagarin, 4.4-ac. tr., Sur. 500. Drlg. 5,697 ft.

T. P. Morgan & Associates No. 5 Morgan, NE¼, Sur. 405 (W.O.). T.D. 6,845 ft.; perf. at 6,730-35 ft.; comp. 135 B.P.D. on 7/64-in. ck.; T.D. 6,845 ft.

Morgan & Chapman Minerals No. 6 Morgan Clark, NE¼, Sur. 405. Drlg. 1,297 ft.

North Star Oil Co. No. 7 R. Morgan, W½ SE¼, Sur. 405 (workover). O.T.D. 5,835 ft.; to D.D. to 8,000 ft.

Oso Drillers, Inc., No. 4 Roark, 660 ft. E line, 1,200 ft. S line, 106-ac. tr., Villareal Gr. T.D. 7,218 ft.; P.B. 4,800 ft. sd.; to comp.

Pan American Prod. Co. No. 7-A Morgan, 9-ac. tr., Sur. 403. Drlg. 4,973 ft.

Pan American Prod. Co No. 8-A Morgan, 89-ac. tr., Sur. 403. Loc.

Pan American Prod. Co. No. 4-A Sagarin, Sur. 500. Drlg. 5,793 ft.

Pan American Prod. Co. No. 4-B Sagarin, Sur. 500. Sd. 5,838-40 ft.; washing in.

Pan American Prod. Co. No. 3-B Smith, Sd. 5,830-48 ft.; set csg. 5,848 ft.; W.O.C.

Pan American Prod. Co. No. 3 Solar Sevier, 140-ac. tr., Sur. 311. T.D. 6,280 ft.; perf. 6,271-75 ft.; reperf. 6,276-78½ ft.; rng. screen.

Pan American Prod. Co. No. 4 Solar Sevier, 140-ac. tr., Sur. 582. M.I.M.

Phillips Pet. Co. No. 5 Hutchins, 60-ac. tr., Blks. 29 and 30, Sheppard Farm Lots (W.O.). Cg. 6,749 ft.

Renwar & Maryland No. 6 Morgan, Sur. 315. Sd. 4,434-42 ft.; rng. tbg.

Republic Nat. Gas Co. No. 1 P. W. Alexander, 32.35-ac. tr., sec. 9, Rge. 5. T.D. 6,768 ft.; tstg. 4,200-ft. sd.

Republic Nat. Gas Co. No. 3 A. Donigan, 240-ac. tr., secs. 6 and 7, Rge. 5. T.D. 4,568 ft.; sd. 4,560-68 ft.; swbg. in.

Republic Nat. Gas Co. No. 17 Dunn, Blk. 37, Sheppard Farm Lots. Drlg. 2,657 ft.

Republic Nat. Gas Co. No. 2 Hutchins, 60-ac. tr., sec. 9, Rge. 5. Spudded.

Republic Nat. Gas Co. No. 3-A Morgan, sec. 405. Drlg. 1,780 ft.

Republic Nat. Gas Co. No. 3 Ordner, 100-ac. tr., sec. 403, Schaffer Farm Lots. Sd. 6,906-12 ft.; D.S.T. 6,895-6,912 ft; 900 ft. P.L.O.; cleaning in pits on ¼-in ck.; C.P. 1,950 lbs.; T.P. 900 lbs.

Richardson Pet. Co. No. 15 Cain & Secrist, Blk. 23, Russell Farm Lots. Sd. 4,422-34 ft.; washing in.

Richardson Pet. Co. No. 20 Cain & Secrist, Blk. 23, Russell Farm Lots. Set sur. csg.; W.O.C.

Richardson Pet. Co. No. 5 Hoelscher, Blk 22, Russell Farm Lots. Drlg. 2,736 ft.

Richardson Pet. Co. No. 5 Perkins-La-Gasse, Blk. 26, Sheppard Farm Lots. Drlg. 5,416 ft.

Richardson Pet. Co. No. 4 Quiros, Blk. 40, Sheppard Lots. Drlg. 1,200 ft.

Richardson Pet. Co. No. 4 Sedwick, 185.4-ac. tr., Sur. 586. Set sur. csg.; W.O.C.

Southern Minerals Corp. No. 7 Bliss, 120-ac. tr., Sur. 406. (W.O.); T.D. 5,832½ ft.; reworked; comp. 100 B.P.D. on ¼-in. ck.

Southern Minerals Corp. No. 5 Mastin, Sur. 416. Drlg. 5,583 ft.

Southren Minerals Corp. No. 9 Smith, Lot

Southern Minerals Corp. No. 10 Smith, Lot 5, Sheppard Farm Lots. Sd. 4,543-50 ft.; completing.

Southern Minerals Corp. No. 11 Smith, Lot 9, J. Dunn Sur. 314. T.D. 4,416 ft.; comp. 15 B.P.H. on ¼-in. ck.

Southern Minerals Corp. No. 13 Smith, Blk. 4, Sheppard trs. Set sur. csg.; W.O.C.

Texon Drlg. Co. No. 4 Kocurek, 140-ac. tr., Sur. 316. Sd. 4,402-06 ft.; completing

W.A.R. Oil Co. No. 4 Hoelscher, Blk. 22, Sheppard Farm Lots. Sd. 4,453-59 ft.; completing.

Stratton—Nueces County

Camp Prod. Co. No. 1 Wordner, 330 ft. E line, 1,280 ft. N line, sec. 12, Stratton Subd. Drlg. 1,746 ft.

Plymouth—San Patricio County

Magnolia Pet. Co. No. 11 Corpus Christi Bank, sec. 24, Fourth Addn., Taft Lds. Drk.

Plymouth Oil Co. No. 65-C Welder, sec. 71. Tstg. 6,585 ft.; prep. deepen.

Plymouth Oil Co. No. 67-C Welder, sec. 48. Set csg. at T.D. 5,620 ft.; oil sd.

Sun Oil Co. No. 5 Rossen, Lots 2 and 7, sec. 23, Fourth Addn. Drk.

Taft Field—San Patricio County

Atlantic Ref. Co. No. 3 Pullin, 330 ft. N line, 380 ft. W line, 40-ac. tr., Lot 4, sec. 1, Second Addn. R.U.

Cage Prod. Co. No. 6 Mayo, Ottman Sur. No report.

Cage Prod. Co. No. 7 Mayo, 9,560 ft. W line, 990 ft. S line, 60-ac. tr., Ottman Sur. Loc.

Esues Oil Co. No. 4 Britton, Lot 8, sec. 6, Third Addn. Set csg. 4,008 ft.; completing.

Esues Oil Co. No. 5 Britton, Lot 8, Sec. 6, Third Addn. T.D. 4,317 ft.; S.D.

Humble O. & R. Co. No. 14 Mayo, Wm. Burns Sur. T.D. 4,923 ft.; swbg. in.

Humble O. & R. Co. No. 16 Mayo, 320-ac. tr., Ottman Sur. T.D. 4,916 ft.; S.D.; repairs.

Humble O. & R. Co. No. 18 Mayo, Ottman Sur. Drlg. sh. 645 ft.

White Point—San Patrico County

Crown Central Pet. Corp. No. 1 White Point Dev. Co., 100-ac. tr. D.S.T. 4,886-4,905 ft.; rec. 2,100 ft. oil; 10 ft. sd. and S.W.; 30 lbs. W.P. 15-min.; sd. 4,900-05 ft.; rng. csg.

Alta Vista—Starr County

Moss & Heard No. 2 Ricaby, Porc. 83, J. of Camargo. Tstg. sd. 1,282 ft.

Los Olmos—Starr County

Ted Stone No. 1 Kelsey-Bass, Porc. 87, J of Camargo. Sd. 400-08 ft.; tstg.

Rio Grande City—Starr County

Clopton & Reed No. 1 Green, Porc. 80, R.U.

Clopton & Reed No. 3 D. Tijerino, Lot 12, Sh. 14-C. Porc. 80. T.D. 3,045 ft.; D.&A.

Cole—Webb County

O. W. Killam No. 49 Bruni, Blk. 5, Sur. 3. Drlg. 1,267 ft.

O'Hern—Webb County

Cole Pet. Co. No. 98 Benavides, Blk. 11, Sur. 412. Drlg. 527 ft.

Hamil & Smith No. 37 Benavides, Hale Subd. Comp. 16 B.P.H.; T.D. 2,921 ft.

Hamil & Smith No. 1 Bruni, Lot 37, Sh. 15, Arispe Gr. T.D. 3,000 ft.; D.&A.

Hamil & Smith No. 2-A Bruni, Sur. 585. Drlg. 2,526 ft.

Hamil & Smith No. 3-A Bruni, Sur. 585, T.D. 2,912 ft.; comp. 43 B.P.D.

Magnolia Pet. Co. No. 20 S. Benavides, Hale Subd. Drlg. 2,456 ft.

H. M. Reed No. 4 Benavides, Blk. 39, Hale Subd. Swbg. 2,916 ft.

Starr Dev. Co. No. 1 Benavides, 330 ft. N and W lines, Sur. 173. M.I.M.

Sun Oil Co. No. 3-B Benavides, Blk. 446. Comp. 191 B.P.D.; T.D. 2,960 ft.

Sun Oil Co. No. 4 Brennan-Benavides, Blk. 507, Hale Subd. Sd. 2,940-51 ft.; W.O.C.

Texas Co. No. 4-A S. Benavides, Blk. 309, Hale Subd. Drlg. sh. 197 ft.

LaSal Vieja—Willacy County

Shell Pet. Corp. No. 1 Yturria, sh. 64, Carricitos Gr. Killed to rework; rlg. screen and liner.

Charco Redondo—Zapata County

W. C. Bob No. 2 Martinez, S¼, Blk. 22, Quandudo Grant. Drlg. 421 ft.

Escobas—Zapata County

H. H. Coffield No. 6 Benavides, Sh. 34. Drlg. 819 ft.

B. W. Roscoe No. 6 Bustamente, 197.3-ac. tr., Sh. 33. Loc.

B. W. Roscoe No. 14 Bustamente, Sh. 33, Fansler Part. Comp. 60 B.P.D.; T.D. 1,275 ft.

Texas Co. No. 96 Jennings, Cerrito Blanco Gr. Drlg. 489 ft.

Haynes—Zapata County

J. D. Long No. 1 Phelps, Villa Gr. R.U.

Magnolia Pet. Co. No. 5 Haynes, Blk. 7, Haynes Subd. T.D. 1,482 ft.; S.D.

Magnolia Pet. Co. No. 14 Haynes, Blk. 7, Haynes Subd. Drlg. 377 ft.

Magnolia Pet. Co. No. 16 Haynes, Blk. 7, Haynes Subd. Set csg. 1,127 ft.; W.O.C.

Magnolia Pet. Co. No. 17 Haynes, Blk. 7, Haynes Subd. Sd. 1,133-50 ft.; comp.; no gauge.

Magnolia Pet. Co. No. 18 Haynes, Blk. 7, Haynes Subd. T.D. 1,107 ft.; comp. 15 B.P.D.

Magnolia Pet. Co. No. 19 Haynes, Blk. 7, Haynes Subd. Drlg. 997 ft.

Magnolia Pet. Co. No. 21 Haynes, Blk. 7, Haynes Subd. Comp. 40 B.P.D.; T.D. 1,163 ft.

McKay & Upchurch No. 19 Haynes, Blk. 7, Haynes Subd. Comp. 20 B.P.D.; T.D. 1,070 ft.

Nordan & Morris No. 21 Haynes, Blk. 7, Haynes Subd. Drlg. 872 ft.

United Prod. Co. No. 26 Haynes, Blk. 13, Gunby Subd. Drlg. 827 ft.

Valley Osage O. Co. No. 17 Haynes, Blk. 14, Haynes Subd. T.D. 1,102 ft.; comp. 65 B.P.D.

Lopena—Zapata County

Venture Pet. Co. No. 2 Ramerez, Blk. 3, Porc. 18. Loc.

Wm. H. Winn No. 1 Carlos Vela, Blk. 6, Porc. 20. R.U.

E. C. TEXAS WILDCATS

Anderson County

American Liberty Oil Co. No. 1 G. E. Gauge, Blackfoot area, B. Gilbert Sur. S.D. 1,732 ft.

Tide Water Oil Co. et al No. 7 Monnig, S. Sanchez Sur., deep test, Long Lake field. Drlg. 5,812 ft.

Angelina County

Ginter & Brown No. 2 Cope heirs, Jose Morin Sur., 3 mi. E of Dibol. M.I.R.

Hicks et al No. 1 Morris, J. Morris Sur., 3 mi. E of Dibol. Cg. 2,170 ft.

Summeral-Harris et al No. 1 M. L. Condrea, D. D. Maroney Sur., ¾ mi. W of Huntington. T.D. 1,472 ft.; bailing.

Cherokee County

General Crude Oil Co. No. 1 O. A. Braley et al, J. Thomas Sur., 4 mi. E of Mt. Selman. Drlg. 2,778 ft.

A. F. Richardson No. 1 F. P. O'Brien, G. S. Clapp Sur., 3 mi. NW of Rusk; 5,000-ft. test. Loc.

Dallas County

Mauldin Oil Co. No. 1 W. E. Howell, S. Layton Sur., 8 mi. E of Grapevine, 6 mi. W of Longmire. R.U.

Falls County

A. H. Bell et al No. 1 C. L. Trice, F. Mayham Sur., 1 mi. E of Lott. S.D. 876 ft.

R. M. Hefflin, No. 1 T. E. Battle, Mari Sur., 3 mi. SW of Marlin. S.D. 2,082 ft.

Thirteen Oil Co. No. 1 H. R. Roberts, N. Slatter Sur., 6 mi. SE of Lott. Pecan Gap 1,480 ft.; S.D. 2,143 ft.

Fannin County

Joiner & Owens No. 1 Goss-Morgan, J. Stephens Sur., 16 mi. N of Honey Grove. Drlg. 2,821 ft.

Styles & Smith No. 1 R. Stewman, J. W. Clark Sur., 2 mi. SE of Trenton. S.D. 688 ft.; elev. 724 ft.

Freestone County

Evert Drlg. Co. No. 1 O. W. Killian, E. J. Robins Sur., 6½ mi. SE of Fairfield. Fsg. 4,812 ft.

Yancey et al No. 1 Scott, Church Lot, H. Awalt Sur., W of Stewartsville. S.D. 3,870 ft.

Hunt County

Penn Oil Corp. No. 1 R. B. Parish, C 100-ac. tr., N. Dauley Sur., 7 mi. NE of Lone Oak. Drlg.

Superior Oil Co. No. 1 P. D. Paul, Mary Latham Sur., 4½ mi. NE of Quinlan. Drlg. 5,018 ft.

Texola Land Corp. No 1. J. M. Goin, Jas. Merrick Sur., 2 mi. SW of Wolfe City. S.D. 40 ft.

Kaufman County

Scott & Woodside No. 1 W. and T. Nash, in J. Cortez Sur., 1 mi. E of Scurry. Loc.

Lamar County

Lowery-Cutler No. 1 E. C. Porter, Thos. King Sur. Top Georgetown 354 ft.; S.D. 2,500 ft.

Limestone County

A. W. Phillips et al No. 1 E. M. Speight, M. Herrin Sur., 6½ mi. SE of Mexia. S.D. 3,695 ft.

Rains County

Humble and Tide Water Oil Co. No. 1 Easter, R. Hotchiss Sur., 5 mi. NW Alba. Cg. 3,181 ft.

Red River County

Carpenter Oil Corp. No. 1 J. M. Roberts, J. Ware Sur., 10 mi. NE of Clarksville. Drlg. 675 ft.

Roy I. Carter Drlg. Co. No. 1 J. A. Tutt, C 40-ac. tr. in D. Hart Sur., 2 mi. S of Avery. S.D. 80 ft.

M. Petroff et al No. 1 R. G. Morris, J. Guest Sur., 2 mi. W of Detroit. S.D. 20 ft.

Robertson County

J. E. Mills No. 1 T. Congelosi, C of 75-ac. tr. in G. A. Nixon Sur., 3½ mi. SW of Hearne. S.D. 2,250 ft.; lost hole; skidded rig 40 ft. S.

Titus County

J. Z. Werby et al No. 1 Williams, 2 mi. E of Talco field, M.E.P.R.R. Sur. T.D. 4,510 ft.; to deepen to Glen Rose.

Van Zandt County

American Liberty Oil Co. No. 1 J. A. Freeman, John Walling Sur. Top Pecan Gap 1,842-1,946 ft.; Austin chalk 2,718-2,936 ft.; cg. 3,000 ft.

Stroud & Lowe No. 1 P. L. McNeill, J. W. Guest Sur., 4 mi. N of Ben Wheeler. S.D. 110 ft.

EAST TEXAS

(Border Counties)

Cass County

W. D. Ambrose No. 1 W. D. Chew, Robt. Trammel Sur., Chew tr. 7-in. cmt. 6,004 ft.; T.D. 6,014 ft.

W. D. Ambrose No. 2 W. D. Chew, Robt. Trammel Sur., Chew tr. T.D. 6,014 ft.; tstg.

American Lib. No. 6-A Baugus, J. H. Rives Sur., Lot 9. Comp.; flw. 337 B.P.D.; T.D. 6,029 ft.

Frank DeMayo No. 1 W. D. Chew, Robt. Trammel Sur. Drlg. 1,876 ft.

Gulf Prod. Co. No. 3 Dawson, J. H. Rives Sur. Comp.; flw. 19 B.P.H.; T.D. 6,009 ft.

Gulf Oil No. 4 Dawson, J. H. Rives Sur., NW cor. lse. Loc.

Magnolia Pet. Co. No. 1 Allday Est., P. Evans Sur., SE cor. 87-ac. tr. 7-in. cmtd. 6,025 ft.; P.B. to 5,990 ft. and tstg.

Magnolia Pet. Co. No. 2 Allday Est., P. Evans Sur. T.D. 5,907 ft.; tstg.

Magnolia Pet. Co. No. 7 L. Haywood, P. Evans Sur., SW of No. 3. Drlg. 300 ft.

Magnolia Pet. Co. No. 8 L. Haywood, P. Evans Sur., NE of No. 2. Drlg. 668 ft.

Magnolia Pet. Co. No. 2 Lewis and Wicks No. 2, Cass Co. Sch. Ld. Sur., NW cor. tr. Drlg. 2,706 ft.

Magnolia Pet. Co. No. 3 Lewis and Wicks, Cass Co. Sch. Ld. Sur., E of No. 2. R.U.

Magnolia Pet. Co. No. 4 Lewis and Wicks, Cass Co. Sch. Ld. Sur. 16-in. 252 ft.; W.O.C.S.

Magnolia Pet. Co. No. 5 Lewis and Wicks, Cass Co. Sch. Ld. Sur., E of No. 4. Loc.

Magnolia Pet. Co. No. 6 Lewis and Wicks, Alex Archer Sur. R.U.

Magnolia Pet. Co. No. 7 Lewis and Wicks, Alex Archer Sur. Drlg.

Magnolia Pet. Co. No. 1 J. B. McLeod, Cass Co. Sch. Ld. Sur., NW cor. sur. Loc.

Magnolia Pet. Co. No. 8 Meda Green, J. Davenport Sur. Drlg.

Magnolia Pet. Co. No. 13 Meda Green, J. Davenport Sur. Drlg.

Magnolia Pet. Co. No. 4 Noel Est., W. B. Hughes Sur. Comp.; flw. 14 B.P.H.; T.D. 6,065 ft.

Magnolia Pet. Co. No. 5 Rives, SE cor. John Collum Sur. Comp.; gas well 4,500,000 ft.; T.D. 5,979 ft.

Magnolia Pet. No. 3 W. M. Hall, Wilson Robinson Sur. Drlg.

R. W. Norton No. 1 Davis, H. Holbert Sur. 13-in. cmt. 252 ft.; W.O.C.S.

R. W. Norton No. 2 Davis, H. Holbert Sur., NE cor. R.U.

Ohio Oil Co. No. 8 Willis, S.F.I.W. No. 1,263 Sur. Drlg. 4,352 ft.

Ohio Oil Co. No. 12 R. P. Willis, SE cor. 320-ac. tr., S.F.I.W. Sur. No. 1,263. Comp. gas well 15,000,000 ft.; T.D. 5,924 ft.

Ohio Oil Co. No. 13 R. P. Willis, S.F.I.W. Sur. No. 1,263. Loc.

Ohio Oil Co. No. 14 R. P. Willis, S.F.I.W. Sur. No. 1,263 ft.; Drlg. 5,075 ft.

Ohio Oil Co. No. 18 R. P. Willis, S.F.I.W. Sur. No. 1,263, 1,750 ft. W of No. 12. Drlg 5,479 ft

Phillips Pet. Co. No. 5 Farrier, Wm. R. Myers Sur. Drlg. 4,685 ft.

Phillips Pet. Co. No. 6 Farrier, Wm. R. Myers Sur. Cg. 5,915 ft.

Phillips Pet. Co. No. 7 Farrier, Wm. R. Myers Sur. Drlg. 2,365 ft.

Phillips Pet. Co. No. 8 Farrier, Wm. R. Meyers Sur. Loc.

Phillips Pet. Co. No. 3 Farrier, Wm. R. Meyers Sur., 220-ac. lse. Comp.; flw. 489 B.P.D.; T.D. 6,118 ft.

Phillips Pet. Co. No. 1 Skinner, Hutchinson tr., S.F.I.W. Sur No. 1,025. Comp., flw. 19 B.P.H.; T.D. 6,100 ft.

Spray Oil Co. No. 3 Scott, Robt. Trammel Sur. R.U. and S.D. for permit.

Spray Oil Co. No. 4 Scott, Robt. Trammel Sur., west of No. 1. Loc.

Texas Co. No. 5 W. M. Hall, A. Archer Sur. Drlg. 4,038 ft.

Texas Co. No. 6 W. M. Hall, A. Archer Sur. Drlg. 3,012 ft.

Texas Co. No. 7 W. M. Hall, Alex Archer Sur., NE cor. lse. Loc.

Texas Co. No. 8 W. M. Hall, Alex Archer Sur., NW cor. lse. Loc.

Texas Co. No. 1 D. Lewis, A. Archer Sur. Comp.; flow 960 B.P.D.; T.D. 6,082 ft.

Texas Co. No. 6 N. A. Rambo, Cass County. Sch. Ld. Sur. Drlg. 4,327 ft.

Texas Co. No. 8 N. A. Rambo, Cass County Sch. Ld. Sur. T.D. 6,035 ft.; prep. set csg.

United Prod. Co. No. 1 G. W. Bibby Unit, A. Archer Sur. 7-in. cmt. 6,066 ft.; T.D. 6,115 ft.; W.O.C.S.

United Prod. Co. No. 2 Bivens Unit, Jas. Davenport Sur. T.D. 6,021 ft.; S.D. W.O.

United Prod. Co. No. 3 J. A. Bewley, H. Holbert Sur. Drlg. 4,615 ft.

United Prod. No. 4 J. A. Bewley, H. Holbert Sur. Drlg. 6,000 ft.

United Prod. No. 5 J. A. Bewley, H. Holbert Sur. Drlg. 5,618 ft.

United Prod. No. 1-A J. H. Bewley, H. Holbert Sur. 7-in. cmt. 5,968 ft.; W. O.C.S.

United Prod. No. 2-A J. H. Bewley, H. Holbert Sur. Drlg. 4,599 ft.

United Prod. No. 5 G. W. Bibby Unit, Comp.; flw. 21 B.P.H.; T.D. 6,050 ft.

United Prod. Co. No. 1 Davis Unit, Cass Co. Sch. Ld. Drlg. 680 ft.

United Prod. Co. No. 1 J. W. Land, R. Potter Sur., SW cor. 100-acre lse. Loc.

United Prod. No. 9 Rambo Unit, J. Davenport Sur., 545 ft. S, 400 ft. E of most northerly NW cor. Rambo Unit. Comp.; flw. 8 B.P.H.; T.D. 6,012 ft.

United Prod. Co. No. 10 Rambo, J. Davenport Sur. Flw. 14 B.P.H.; T.D. 5,985 ft.

United Prod. Co. No. 5-A Tyson, J. H. Rives Sur. Rg. 7-in. csg.; T.D. 6,064 ft.

United Prod. Co. No. 6-A Tyson, J. H. Rives Sur. 7-in. cmt. 6,010 ft.; W.O.C.S.

United Prod. No. 1 S. B. Willis, Wilson Robinson Sur. Drlg. 3,940 ft.

United Prod. No. 2 S. B. Willis, Wilson Robinson Sur. No. 908. Drlg. 5,677 ft.

United Prod. No. 3 S. B. Willis, Wilson Robinson Sur. No. 908. Drlg. 5,180 ft

Vaughn Prod. Co. No. 2 Willis, S.F.I.W. Sur. 1,263. Drlg. 5,810 ft.

Harrison County

Geyer Oil Co. No. 1 Alex Moore, 5 mi. SW of Waskom, C. W. Fields Sur. W.O.S.R.

H. H. Roberts et al No. 1 Z. Douglas, Fields Sur. T.D. 2,485 ft.; prep. for prod. test.

Marion County

Arkansas-La. No. 1 W. S. Ford, Charles Grayson Sur., NE cor. Ford 204-ac. tr. Cg. 6,151 ft.

F. R. Freet et al No. 1 Barnham, Robt. Potts Sur. Drlg.

Sam Lanier No. 1 Lucey Rives, SE cor. M. G. Wall Sur. T.D. 960 ft.; W.O.S.R

Morefield & Prince No. 1 Benefield, NE cor. Robt. Potter Sur., 4 mi. W of Oil City, La. P.B. to 945 ft.; W.O.C.S.

Holcomb & Thomason No. 1 Lizzie Henderson, 330 ft. S and E, cor. Blk. 18, of Lizzie Henderson Subd., or 2,800 ft. S, 3,450 ft. E of NW cor. of R. Bennington Sur. T.D. 6,026 ft.; perf. csg. higher in gas sand to increase flow.

Panola County

Matex Oil Co. No. 1 Thomas M. Alstone 3 mi. E of Elysian field. T.D. 5,036 ft.; tstg. S.W. some gas and show oil; fsg. for packer rubbers.

Sabine County

L. B. House et al No. 1 Bell, D. McDonald Sur. Drlg. 2,357 ft.

Shelby County

Wm. Redditt No. 1 Pickering Lbr. Co., S cor. Stephens English Sur. S.D. 2,165 ft.; fuel.

H. A. Stebbinger No. 1 Pickering Lbr. Co on 160-ac. tr. in A. Hanson Sur. Drlg. 3,415 ft.

NORTH TEXAS WILDCATS

Archer County

L. T. Burns No. 1 Ikard, Blk. 5, Clark & Plumb Sur. R.U.R.

Hammond Oil Co. No. 1 Powell, H. A. Allen Sur. A-3. Drlg.

J. T. Miller No. 1 S. B. Herron, sec. 6, Clark & Plumb Sur. Drlg. 700 ft.

J. A. Self No. 1 Symank, sec. 11, L. & M. Pasture. Drlg. 1,385 ft.

E. J. Stump No. 1 Wilson B, sec. 1, B.B. B.&C. Sur. A-39. Drlg. 2,380 ft.

Clay County

Green Mt. Oil Co. No. 1 Staggs, sec. 34, A.C.S.L. Sur. Drlg.

R. N. Hamilton No. 1 Fred Wines, sec. 4, H. Dixon Sur. A-106. Loc.

G. T. Morris No. 1 Boddy, T. Cook Sur. S.D.O. 810 ft.

Collin County

Sorrell et al No. 1 D. R. Clark, J. Rowland Sur. Spudded and S.D.

Cooke County

Wm. D. Compton No. 1 P. Tucker, J. Barnett Sur. A-42. U.R. 8¼-in. 675 ft.

B. H. Hilburn No. 1 W. A. Harris, J. Harris Sur. A-502. Drlg. 1,660 ft.

Peterson et al No. 1 J. M. Floyd, Chas. De Morse Sur. A-305. Drlg. 275 ft.

Ruble & Lowery No. 1 Dozier, Lot 12, P.C. S.L. Sur. R.U.R.

United Producers Co. No. 1 J. G. Jones, L. S. Blair Sur. A-188. Spdg.

Denton County

Carlysle & Wilson No. 1 J. P. Knox, R. Howard Sur. A-542. Gas sd. 1,950-55 ft.; est. 10,000,000 ft.; rng. 5 3/16-in. to 1,950 ft.

J. C. Foster No. 1 Jeffcoat, J. West Sur. Drlg. 2,000 ft.

C. C. Minnick No. 1 C. N. Price, J. Doughtitt Sur. A-1,322. Fsg. 270 ft.

Mullen & Weil No. 1 Maxwell, J. Martin Sur. A-792. Loc.

Oil Finance No. 1 J. S. Gambill, S.D. 1,562 ft.

J. Stogner No. 1 J. Maxwell, Jno. Morton Sur. A-792. Spudded and S.D.

Grayson County

F. Gailbreath et al No. 1 Singletary, Chas. Quillian Sur. A-989. 6⅝-in. csg. 3,145 ft.; drlg. 4,215 ft.

Red Wing Oil Co. No. 1 Mulder, J. Barefoot Sur. Drlg. 385 ft.

Olson et al No. 1 D. R. Ultger, P. P. Cady Sur. A-301. Drlg. 3,670 ft.

Pete Shanor No. 1 Blair, 6⅝-in. 3,190 ft.; W.O.C.

Hardeman County

Locke & Durham No. 1 Schoppa, sec. 97, H.&T.C. Sur., Blk. 16. S.D. 30 ft.

Jack County

F. W. Bennett No. 1 Nichols, O.S. 3,005-20 ft.; 2,000 ft. oil in hole.

Danciger O. & R. Co. No. 1 Kinder, B.S.&F. Sur. A-83. Drlg. 1,870 ft.

Hamilton Pet. Co. No. 1 J. S. Rhodes, Wm. Orr Sur. A-849. 6⅝-in. 2,336 ft.; W.O.C.

Mrs. D. P. Jack No. 1 Hardy, T.E.&L. Sur. No. 2,555. Drlg.

Sam Shabay No. 1 L. W. Fields, sec. 1, S.P.R.R. Sur. Loc.

Tillman et al No. 1 Jones, J. Helmstutter Sur. No. A-1,269. Drlg.

Montague County

Edgar T. Hart No. 1 W. L. Davis, sec. 12, Jack Co. Sch. Ld. Drlg. 1,080 ft.

C. A. Lupton No. 1 Ball, T.E.&L. Sur. A-800. Derrick.

D. L. Monroe No. 1 Sappington, sec. 64, E.T.R.R. Sur. A-1,443. Drlg. 770 ft.

Reinhart et al No. 1 Cunningham, G. Rayne Sur. A-15. S.D. 900 ft.

Ventex Investments, Ltd., No. 1 S. E. Bell, sec. 11, M.E.P.&P. Sur. Drlg. 800 ft.

Throckmorton County

R. J. Williams No. 1 W. B. Parrott, T.E. &L. Sur., sec. 961. S.D.O. 2,520 ft.

Wichita County

H. W. Barton, Jr. No. 1 W. B. Honaker, R. Meade Sur. A-185. Drlg. 700 ft.

J. S. Gurley No. 1 M. B. Riley, Blk. 94, R.R.V.L. Sur. R.U.S.T.

Humble O. & R. Co. No. 2 Parker, sec. 25, H.&G.N. Sur. Spdg.

King Oil Co. No. 1 R. W. Porter, sec. 22, H.&T.C. Sur. Drlg. 600 ft.

Leo Oil Co. No. 1 Fonville, sec. 323, Wagoner Co. Sur. R.U.R.

T. B. Medders No. 1 Foster, sec. 2, S.A. &M.G. Sur. Drlg. 1,710 ft.

Palmer et al No. 1 McCarty, S. O. Fowler Sur. No. A-78. Fsg. 1,820 ft.

O. R. Tautenhahn No. 1 Kemp et al, sec. 58, K.W.V.F.L. Sur. Drlg. 1,505 ft.

United Prod. Co. No. 1 J. T. Harrell, Blk. 9, Denton Co. Sch. Ld. Sur. R.U.R.

Wilbarger County

Bason Drlg. Co. No. 1 Waggoner, sec. 1, H.&T.C. Sur., Blk. 4. Drlg. 720 ft.

F. A. Lain No. 1 J. Coffee, sec. 44, H.&T.C. Sur. O.W.D.D.; cellar.

E. C. Lawson No. 1 Waggoner, sec. 100, H.&T.C. Sur. Drlg. 600 ft.

Wise County

Latex Oil Co. No. 1 Smith, J. Couch Sur. Loc.

Texas-Canadian Dev. Co. No. 1 T. N. Maxwell, Isham Epps Sur. A-267. Drlg. 600 ft.

Young County

Alexander & Long No. 1 Goldston, S.P.R.R. Sur. A-263. Drlg. 4,030 ft.

Helmerich & Payne No. 1 J. H. Rubenkoenig, J. Poitevent Sur. 9-227. S.S.O. 4,205-30 ft.; C.O. and testing.

J. E. Kadane No. 1 B. F. Manley, T.E.&L. Sur. 2,128. Drlg.

K. R. March No. 1 Earnest, F. Peterwick Sur. A-218. Drlg.

A. T. Strong No. 1 M. K. Graham, T.E.&L. Sur. 3,410. R.U.C.T.

R. H. Vise No. 1 Dollins, T.E.&L. Sur. 614, 6⅝-in. cmtd. 2,800 ft.; W.O.C.

C. V. Welch No. 1 Street, M. E. Criswell Sur. A-1,772. Fsg. 1,040 ft.

L. W. Wickes No. 1 McCluskey, Green Sur. Drlg. 4,180 ft.

Wootten & Wilson No. 1 S. J. Furr, sec. 36, T.E.&L. Sur. Loc.

Yorktex Pet. Co. No. 1 F. G. Burnett, G. W. Hills Sur. A-151. Treated with acid 4,020-80 ft.; swbg. acid from hole; showing wtr.

Yorktex Pet. Co. No. 1 W. E. Steele, I.&G.N. Sur. A-156. R.U.C.T.

WEST TEXAS WILDCATS

Andrews County

American Liberty Oil Co. No. 1 Mayhew, sec. 23, Blk. A-51, P.S.L. Sur. Drlg. 4,356 ft.

G. F. Getty, Inc., No. 1 R. H. Lindley, sec. 8, Blk. A-46. T.D. 4,642 ft.; ran tbg.; oil 31.7 grav.

Geo. F. Getty No. 1 Moxley. T.D. 4,802 ft.; C.O.

Hannigan No. 1 Lotus Oil Co., sec. 18, Blk. A-48, P.S.L. Sur. S.D. 102 ft.

R. H. Henderson No. 1 J. E. Parker, sec. 35, P.S.L. Sur. A-43. T.D. 4,555 ft.; pumped 80 bbls. oil in 10 hrs.; pumping off.

Shell Pet. Corp. No. 1-E F. King, sec. 10, Blk. A-42, P.S.L. Sur. Drlg. 2,762 ft.

Brewster County

F. C. Dodson No. 1 Texas American Synd., sec. 66, Blk. 10, G.H.&S.A. Sur. Drlg. 3,815 ft.

Crane County

Clark et al No. 1 Jordan, sec. 12, Blk. B-22, P.S.L. Sur. Drlg. 3,523 ft.

Gulf Oil Corp. No. 2 McKnight, sec. 9, Blk. B-21. Drlg. 4,040 ft.

Gulf Oil Corp. No. 2 Snodgrass, sec. 1, Blk. B-25. T.D. 3,550 ft.; P.B. 3,521 ft.; shot and shut in.

J. Hertz No. 1-A Hughes, sec. 101. Drlg. 915 ft.

Sinclair Prairie Oil Co. No. 124 University, sec. 13, Blk. 35. Cellar.

Crockett County

T. P. Coal & Oil Co. No. 1 Hair, sec. 51 Blk. 1, I.&G.N. Sur. S.D. 1,865 ft.; 3 gals. oil at 1,730-35 ft.

Ector County

Bond & Harrison No. 1 Rumsey, 2,310 ft. from N and 330 ft. from E, sec. 35, Blk. 45, Twp. 1n, T.&P. Sur. Cellar.

Sinclair Prairie Oil Co. No. 2-A Johnson, sec. 48, Blk. 43, Twp. 1s, T.&P. Sur. T.D. 4,345 ft.; testing.

Edwards County

Dan Auld et al No. 1 Rigsby, sec. 16, Blk. OK, G.C.&S.F. Sur., 15 mi. NE of Rock Springs. Loc.

Plateau Oil Co. No. 1 Hatch. Drlg. 5,010 ft.

Fisher County

L. A. Daniels et al No. 1 J. J. Nickless. Drlg. 2,453 ft.

Forrest Dev. Co. No. 1 J. A. Scott, 660 ft. from S and E, sec. 105, Blk. 2, H.&T.C. Sur. Loc.

Martin & Brubaker No. 1 Brown, W. E. Richardson Sur., sec. 4, Blk. R. Drlg. 1,713 ft.

Southern Oil Co. No. 1 Robinson, sec. 173, Blk. 2, H.&T.C. Sur., 2½ mi. NE of Raton. T.D. 1,780 ft.; ran pipe.

Gaines County

Amerada Pet. Corp. No. 1 Robbins, sec. 9, Sur. A-22. P.B. to 4,880 ft.; shot; C.O.; T.D. 4,940 ft.

Landreth Prod. Co. No. 1 C. Cobb, 660 ft. from S and W, sec. 20, Blk. A-21, M.I.M.

Stanolind O. & G. Co. No. 1 Morrow. T.D. 4,906 ft.; P.B. to 4,702 ft.; testing.

Garza County

S. Caprito No. 1 Post Estate, 330 ft. from S and 775 ft. from W, sec. 230, Blk. 5, K. Aycock Sur. R.U.M.

Glasscock County

Fleetborn Oil Co. No. 1 Black Arrow, sec. 3, Blk. 34, Twp. 3s, T.&P. Sur. Drlg. 1,626 ft.

Shell Pet. Corp. No. 1 McDowell, sec. 41, Blk. 34, Twp. 2s, T.&P. Sur. Drlg. 2,512 ft.

Hockley County

Texas Co. No. 1 H. Slaughter, Labour 83 League 38, Zavala Co. Sch. Lds. Drlg. 4,306 ft.

Howard County

R. A. Westbrook et al No. 1 G. T. West, sec. 48, Blk. 33, Twp. 1n, T.&P. Sur. Drlg. 792 ft.

Hudspeth County

Haymon Krupp Oil & Ld Co. No. 1 Thaxton, SE¼ sec. 34, Blk. 74, Twp. 6. T.D. 2,695 ft.

Jones County

H. D. Egger et al No. 1 O. Roberts, sec. 26, Orphan Asylum Lds. T.D. 1,950 ft.; set csg.

Fain-McGaha, Inc., et al No. 1 Lotspeick, sec. 40, Blk. 15, T.&P. Sur. Drlg. 1,323 ft.

Fain-McGaha, Inc., No. 1 Lewis et al, sec. 37, Blk. 15, T.&P. Sur. S.D. 1,525 ft.

Hugh King, Jr., No. 1 Harris, 1,760 ft. from S and 2,440 ft. from W, D. H. Stover Sur. No. 7. R.U.S.T.

McMann et al No. 1 Dyer sec. 12, Blk. 2, S.P.R.R. Sur. Machine.

Oyster & Griffith No. 1 Bumpass, A. Jones Sur., 3 mi. SW of Truby. Fsg. 2,440 ft.

Oyster et al No. 1 King, N. Scott Sur. No. 14. T.D. 1,785 ft.; U.R. csg.

J. L. Reeves No. 1 Kelly, C. Martinez Sur., 1½ mi. N of Hawley. T.D. 2,251 ft.

T. K. Simmons No. 1 E. A. Hicks, sec. 5, O.A. Lands Sur. Loc.

Snoddy & Snoddy No. 1 Harvey, sec. 9, Blk. 14, T.&P. Sur., 9 mi. S of Leuders. Drlg. 1,614 ft.

Ungren & Frazier No. 1 J. J. Steele, sec. 11, Blk. 15, T.&P. Sur. Drlg. 1,863 ft.

Loving County

Mason Oil Co. No. 2 M. Kyle, sec. 20, Blk. 55, Twp. 1s, T.&P. Sur. Avgd. 316 bbls. day per week while C.O.; T.D. 3,903 ft.; shut in.

Nolan County

Dr. Robinson Co. No. 1 E. Gabler, sec. 26, Blk. X, T.&P. Sur. Drlg. 3,275 ft.

Pecos County

Bahan & Rhodes No. 1-B Bonebrake, sec. 114, Blk. 8, H.&G.N. Sur. T.D. 2,290 ft.

Hightower Oil Corp. No. 1 Holmes, sec. 6, Blk. C-3, E.L.R.R. Sur. S.D. 2,450 ft.

Humble O. & R. Co. No. 1 E. M. Gray, sec. 94, Blk. 11, G.H.&S.A. Sur.; 5,000-ft. test. Drlg. 623 ft.

Lee Pet. Corp. et al No. 1 J. L. Nutt, sec. 1, W. D. Henley Sur. Drlg. 1,462 ft.

E. R. Minshall, No. 1 Banker, sec. 25, Blk. 146, T.&St.L. Sur. T.D. 2,815 ft.; drlg. by tools.

S. Thompson No. 1 Elsinore Cattle Co., sec. 54, Blk. D, G.C.&S.F. Sur. Drlg. plug. 4,297 ft.

Union Oil & Mining Co. No. 1-A Magnolia, sec. 5, Blk. 9, H.&G.N. Sur. Drlg. 980 ft.

Young No. 1 Bailey, sec. 23, Blk. 178, T.C. R.R. Sur. S.D. 1,900 ft.

Young Oil Co. No. 1 Perry, sec. 3, Blk. Z, T.C. Sur. To spud.

Presidio County

L. C. Brite No. 4 fee, C NW¼ sec. 113, Blk. 12, G.H.&S.A. Sur. Spudded.

A. H. Main No. 1 Greenlee, sec. 40, Blk. 347, 13 mi. NE of Marfa. Machine.

Reagan County

Bahan & Rhodes No. 1 Kloh, sec. 37, Blk. 37, Twp. 5s, T. & P. Sur., NW cor. of county. Drlg. 2,561 ft.

Reeves County

Grisham & Hunter No. 1 Montgomery, sec. 1, W. R. King Sur. T.D. 1,180 ft.; lost hole; skidding rig 25 ft. N.

J. C. Hill et al No. 1 Ely, 1,320 ft. from N and W, sec. 38, Blk. 71, P.S.L. Sur. Loc.

Schleicher County

Mangus Oil Co. No. 1 Judkins & Spencer, C SW¼ sec. 4, W. W. Russell, grantee. Elev. 2,209 ft.; T.D. 6,527 ft.; P.B. 5,912 ft.; shot 145 qts. from 5,814-5,920 ft.; C.O.

Scurry County

Bristow & Cantrell No. 1 Tomlinson, sec. 122, Blk. 97, H.&T.C. Sur. R.U.M.

Taylor County

Superior Oil Co. of Tulsa No. 1 Cook Hrs. Drlg. 3,500 ft.

Terrell County

Ohio Oil Co. No. 1 M. H. Goode, sec. 26, Blk. 161, G.C.&S.F. Sur. Drlg. 8,429 ft.

Terry County

W. L. Pickens et al No. 1 Lewright, sec. 1, Blk. C-37, P.S.L. Sur. T.D. 4,590 ft.; R.U.S.T.

Upton County

J. H. Myles & Son No. 1 Hughes, sec. 91, Blk. Y, G.C.&S.F. Sur. Drlg. 1,000 ft.

Dan Short No. 1 Webb, sec. 174, Blk. E, C.C.S.D.&R.G.N.G. Sur. S.D. 875 ft.

Ward County

Moran et al No. 1 Reynolds, sec. 21, Blk. 5, H.&T.C. Sur. S.D. 850 ft.

Wood et al No. 1 Boogher, sec. 8, Blk. 32, H.&T.C. Sur. Drlg. 1,200 ft.

Winkler County

Read & Duffey No. 1 Sealey, sec. 8, Blk. A, G.M.M.B.&A. Sur. S.D. 4,520 ft.

Richardson Oils, Inc., No. 1 Humble-Walton, sec. 3, Blk. B-3, P.S.L. Sur. T.D. 3,413 ft.; shot; C.O.

Richardson No. 1-B Walton, 2,310 ft. from N and 990 ft. from W, sec. 20, Blk. 77, P.S.L. Sur. Loc.

J. R. Sharp No. 1 Walton, sec. 19, Blk. 77, P.S.L. Sur. Drlg. 1,080 ft.

York & Harper et al No. 1 Gunter & Munson, sec. 7, Blk. C, G.M.M.B.&A. Sur. T.D. 1,195 ft.; U.R. csg.

Yoakum County

Bahan et al No. 1 Shook Est., 1,320 ft. from N and E, sec. 420, Blk. D, John H. Gibson Sur. Loc.

RANGER (CENTRAL TEXAS) DISTRICT

Callahan County

Canyon O. & G. Co. No. 1 J. O. Kidd, 2,560 ft. from S, 250 ft. from W, of R. A. Pennell Sur. No. 755, 4 mi. NW Cross Plains. Loc. for 3,000-ft. test.

A. R. Forster No. 1 C. B. Snyder, NW cor. NE¼ county, sec. 139, B.B.B.&C. Sur. Loc.

H. V. House et al No. 1 R. Smart "B," 5 mi. SW of Admiral, W. T. Lassiter Sur. S.D. 810 ft.

Mesa Verde Oil Co. No. 1 Klepper, 3 mi. N Clyde, sec. 69, B.B.B.&C. Sur. Top sd. 1,626 ft.; set csg.; fighting cave; O.S. 1,636-50 ft.; T.D. 1,652 ft.; may shoot.

Coleman County

Anzac Oil Corp. et al No. 1-H Morris, 12 mi. NE Coleman, J. Harris Sur. No. 77. Drlg. 1,400 ft.

Midfield Oil Co. No. 1 T. H. Ward, sec. 274, W. Echels Sur. S.D.O. 1,500 ft.

Eastland County

F. J. Estes No. 1 Gentry, A. Popejoy Sur. S.D. 2,500 ft.

States Oil Corp. No. 1 H. S. Schmick, 1 mi. NE Eastland, 330 ft. from N and 160 ft. from W lines, SE¼ sec. 1, H.& T.C. Sur., Blk. 4. Loc.

Hamilton County

Seaboard Oil Co. No. 1 fee, A. C. Grimes Sur., 10 mi. N of Huntington. Top Ellenberger 4,144 ft.; bailed dry; set 24 hrs. and tested 12 bbls. oil, 86½ bbls. salt water; drlg. 4,221 ft.

Palo Pinto County

D. H. & C. Drlg. Corp. No. 1 Davenport, 6 mi. SE Palo Pinto, L. F. Margaret Sur. A-309. T.D. 2,000 ft.

Paul Garrett No. 1 Mabry heirs, NE cor. county, sec. 2,572 ft., T.E.&L. Sur. Drlg. 575 ft.

Shackelford County

H. C. Akins et al No. 1 J. E. Swenson, C E½ sec. 14, A.B.&M. Sur. Loc.

Danciger & Pearson No. 1 Swenson, 2 mi. NW Morris-Buie pool, Williams Sur., Abst. 1,543. Drlg. 900 ft.

Dean Bros. et al No. 1 Newell C, 610 ft. from N line, 220 ft. from E line, sec. 87, E.T.R.R. Sur., 1 mi. SW Cook pool. Spudding.

Green, Jones & Stasney No. 1 Davis, 7 mi S. Morris-Buie pool, sec. 29, T.&P. Sur., Blk. 13. Drlg. 490 ft.

Humble O. & R. Co. No. 1 Morris B, 2 mi. E Morris-Buie pool, sec. 188, E.T.R.R. Sur. Drlg. 1,448 ft.

Frank Oyster et al No. 1 J. C. Swenson, 7 mi. N Morris-Buie pool, C SE¼ of NW¼, sec. 14, A.B.&M. Sur., Abst. 780. Spudding.

Reliance Oil & Roy. Co. No. 15 G. R. Davis, sec. 6, T.&P. Sur., Blk. 13, 4 mi. S of Bluff Creek pool. Drlg. 800 ft.

Ungren & Frazier et al No. 1 Snyder, 3 mi. SW Sedwick, sec. 26, L.A.L. Sur. Ellenberger test. R.U.R.

Stephens County

Aarco O. & G. Co. No. 1 Atkins, 2½ mi. E Crystal Falls, 2,196 ft. from S, 330 ft. from W of sec. 1,129, T.E.&L. Sur. Loc. for 4,000-ft. test.

C. B. Christie et al No. 1 E. S. Maury, 4 mi. W of Crystal Falls, J. Koehler Sur., Abst. 26. S.D. 3,570 ft. for csg.

W. T. Garret et al No. 1 Echols, 6 mi. SE of Ivan, W½, sec. 10, Blk. 3, S.P.R. Sur. T.D. 3,325 ft.; fsg. bit; shot 700 qts. 3,118-3,310 ft.; C.O.

Hanrahan & Bedingfield No. 1 Guest, 2 mi. NW Frankell, sec. 30, T.&P. Sur., Blk. 6. Spud. and S.D.

Tarrant County

E. E. Hoffpauir et al No. 2 W. H. Davis, 2 mi. S Arlington, H. Blackwell Sur. Drlg. 1,821 ft.

Taylor County

Hal Hughes et al No. 1 Manahan, 5 mi. S Abilene, 1,650 ft. from N, 330 ft. from E of Sec. 14, L.A.L. Sur. Moving in.

Throckmorton County

R. J. Williams et al No. 1 W. B. Parrott, 4 mi. NW of Woodson, sec. 961, T.E.&L. Sur. S.D. 2,612 ft.

Wise County

Latex Oil Co. No. 1 Smith, 3 mi. E Bridgeport; 880 ft. W and 330 ft. N of NE cor. R. Coleman Sur., but in Jas. Couch Sur., Abst. 104. Derrick for 4,200-ft. test.

Texas-Canadian Dev. Co. No. 1 T. N. Maxwell, NE cor. county, Isham Epps Sur. Loc. for 3,500-ft. test; resetting surface pipe 691 ft.

Transwestern Field Heads

The Transwestern Oil Co. has established district offices in the Union National Bank Building, Wichita, Kans., and the Medical and Professional Building, Corpus Christi, Tex.

Glen Wooley will be in charge of exploration activities in Kansas and B. N. Mouser is production superintendent. Mr. Wooley graduated from the University of Utah with major in geology in 1925, and became associated with the Midwest Oil Co. The past nine years he has been in Kansas with the Derby Oil Co. and Franco Central Oil Co. Jack Deardorf has been employed as scout.

T. R. Banks will be in charge of exploration work in the Southwest Texas district. Mr. Banks has been in the San Antonio-Laredo district seven years with the Magnolia Petroleum Co. and Ruthford & Hooper, and was district geologist at Wichita Falls for the Magnolia two years. He is a graduate of the University of Texas, with major in geology. C. N. Wilson, formerly with the Slick-Urschel Oil Co., will be production superintendent for the Transwestern Oil Co. located at Corpus Christi. W. R. Means has been employed as geologic scout. He was formerly with Sinclair Oil & Gas Co. in East Texas, and graduated in geology at the University of Oklahoma.

Field Activities in 31 Illinois Counties

URBANA, Ill., Feb. 15.—The monthly oil report of the State Geological Survey of Illinois, just issued, shows 33 rigs up, 10 wells actively drilling and 22 wells temporarily shut down in the state at the close of the report. Thirty-one counties are listed. Three recently completed dry-hole tests are given, including J. E. Newton and others No. 1 Langhauser, SE SW SE section 32-2n-3w, Clinton County, total depth 1,051 feet in Carlyle sand (Chester series, Upper Mississippian); Nokomis Oil Co. No. 2 Glass, C NE SW section 29-12n-2w, Christian County, total depth 1,122 feet, reported to be St. Genevieve limestone, Lower Mississippian, topped at 1,120 feet, and Mahutska Oil Co. No. 9 Mark Madden, NW NW NE section 7-1n-8w, Wabash County, total depth 1,452 feet, Jordan sand of the basal Pennsylvanian, topped at 1,416 feet.

Three locations are reported, including Joseph Hassett No. 31 Turner, NE SW SE section 33-11n-14w, Clark County; Boone Oil Co. No. 2 Snedeker Brothers, SW SE SW section 15-8n-8w, Macoupin County, and Patton and others No. 1 Morgan & Baldwin, SE NW section 22-1s-4w, Washington County.

Four rigging-up jobs included Kahlert and others No. 1 Ducomb, SE NW section 13-3n-1w, Clinton County; Tide Water Associated Oil Co. No. 14 Henry, NE SE section 10-7n-13w, Crawford County; Goodwin, Cooley and others No. 1 Valbert, NW NE NE section 20-4s-3e, Jasper County, and Dee & Carter No. 1 J. H. Hamilton, SW NW section 20-4s-3e, Jefferson County, heavy duty rotary.

Active drilling wells at the close of the report included the following:

Drilling Wells

Bond County—Hempen & Burgess No. 1 Louis Siever, SW NW SE section 16-5n-3w.

Clark County—E. Parker and others No. 1 M. E. Endsley, NW NE section 4-11n-14w.

Clay County—Pure Oil Co. No. 1 Eugene Weiler, SE SW SE section 33-3n-8e.

Clinton County—W. C. McBride, Inc., No. 1 Stephen Holtgrave, NE SE section 28-2n-3w; Gross Erling & Murphy No. 1 Ben Eversgard, SW NW SW section 22-1n-4w.

Crawford County—Dinsmoor Oil Co. No. 34-C W. E. Ewing, SE NW section 31-6n-11w.

Marion County—T. E. Baldwin No. 1 H. Nichols, SW SE section 12-4n-4e.

Perry County—Howard Forester No. 1 Howard Forester, SW NW section 5-6s-1w, elevation 465 feet, drilling below 4,600 feet.

Wabash County—Mahutska Oil Co. No. 10 Mark Madden, NW NE section 7-1n-11w.

Wayne County—Pure Oil Co. No. 1 George Bradley, SW SW NW section 26-1n-7e.

Permitted Well Plugged

The Texas Supreme Court has refused a writ of error to a civil appeals court ruling that a district court was not invading jurisdiction of the Railroad Commission in ordering an oil well drilled illegally.

The case was that of W. C. Turnbow and others against Barnsdall Oil Co. and others involving legality of permits granted Turnbow by the commission to drill two wells in Gregg County as to Rule 37.

Jessie Jett, scout for the Gulf Oil Corp., has been transferred from Houston to Tyler, Tex., to take the place of Bill McKenna who has been transferred from Tyler to Palestine, Tex. Mana Graham, scouting for the company, has resigned. He was stationed at Marshall, Tex.

PERSONAL

L. L. DIMIT, 86, one of the grand old men of the oil industry, and MRS. DIMIT, celebrated their sixty-fifth wedding anniversary at their home in Neosho, Mo., on Saturday, February 13. They kept open house, receiving many friends and relatives. Mr. and Mrs. Dimit have five living children, W. H. DIMIT, of Fly, Ohio; JOHN L. DIMIT, of Sapulpa, Okla.; C. P. DIMIT, of Bartlesville, Okla.; MISS HESTER DIMIT, of Neosho, Mo., and MRS. D. ELIZABETH BUTLER, of Minneapolis, Minn. MISS BETTY DIMIT, daughter of C. P. Dimit, broadcast a song in honor of her grandparents from KFRU, Columbia, Mo.

J. T. LANGHAM, engineer and representative for Black, Syvalls & Bryson, Inc., has been transferred from Oklahoma City, Okla., to Graham, Tex., where the company has opened a branch warehouse.

WILLIAM H. MORGAN of the R. R. Bush Oil Company has been elected president of the Independent Refiners' Association of California, and W. S. SCULLY has been elected counsel and general manager. At the same time, DeWITT KNOX of the Macmillan Petroleum Corporation was elected first vice president and R. E. HINES of Caminol Company was elected second vice president. Directors include JAMES H. LEWIS of Sunset Oil Company and C. B. LIMBOCKER of Hancock Oil Company. A. M. LOCKHART of Envoy Petroleum Company was reelected secretary-treasurer.

W. M. THORNBURY, superintendent for British Oil Company in the Mosul, Iraq, field, is visiting his family in California.

CHARLIE W. THORNHILL, vice president of the Thornhill-Craver Company, Houston, Tex., is visiting California oil fields. He will return to his headquarters in March.

FLOYD A. CALVERT, counsel for Pure Oil Company at Saginaw, Mich., and formerly of Tulsa, recently was elected president of the Michigan Oil and Gas Association.

H. D. COLLINS has resigned as production engineer for the Gulf Oil Corporation. He will move to Fort Worth, Tex., on March 1 as vice president of the Lant-Tex Equipment Corporation, which has moved its offices from Shreveport, La., to Fort Worth and is erecting a manufacturing plant and sales office. Mr. Collins has been in the employ of the Gulf since July, 1925. He graduated with a degree of B.S. in chemical engineering from Marietta College in 1923, after which he was employed by the National Refining Company, the Putnam Construction Company and the Parkersburg Rig & Reel Company, respectively.

R. B. DAY, general manager of the Shamrock Oil & Gas Corporation, is in an Amarillo, Tex., hospital with the influenza.

JAMES KERR of Kermac Petroleums, Ltd., of Victoria, British Columbia, is in Toronto and eastern Canada on business.

ROBERT M. TURPIN, of Tulsa, has resigned from the law department of Skelly Oil Company to practice his profession in Midland, Tex.

J. C. GALLAGHER, with Pyinma Development Company, in the Burma, India, field, is visiting in the United States for the first time in several years.

L. E. HODGES, general manager of the Portable Rig Company, Houston, Tex., has completed a tour of East Texas, West Texas, Oklahoma, Kansas and New Mexico oil fields.

S. C. MUNOZ, of New York, president of the Santa Fe Company, jointly interested with the Continental Oil Company in the Rattlesnake field, New Mexico, was a visitor in Denver, Colo., and inspected the New Mexico properties before returning east.

LESTER DANIEL, recent petroleum engineering graduate of the University of Oklahoma, has been employed by Magnolia Petroleum Company at Rodessa, La., as assistant district engineer. He replaces DAN WILLIAMS, JR., who recently was transferred to the Talco and East Texas fields.

J. P. HULL, formerly with the Trinidad Petroleum Development Company's drilling staff, has been appointed drilling superintendent to Antilles Petroleum Company, Ltd., the Trinidad subsidiary of the McColl Frontenac Oil Company, Ltd., of Montreal, Canada, and is now supervising the drilling of two wells on Trinidad Island, W. I.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

"Buffalo Bill," (Col. William F. Cody), will drill a wildcat in Arizona between Arlington and Agua Caliente. Machinery is on the ground and the derrick is being built.

Stock in the Standard Oil Company of Indiana recently advanced from $3,875 per share to $4,200. Stockholders will vote on March 7 on the question of increasing the capital stock to $30,000,000. It is now $1,000,000.

There are 148,440 oil wells in the United States and they average about 4 barrels per day per well.

20 YEARS AGO

The deepest cable-tool well in the world is now drilling at 7,214 feet by Peoples Gas Company in the McDonald field, Washington County, Pennsylvania. The wire cable is 10,000 feet long tapering from 1¼ inches to seven-eighths inch.

Premiums of 25 to 50 cents per barrel are being paid for crude oil in North Texas. The posted price is $1.70.

W. M. Black, 66, senior partner in Black, Sivals & Bryson, dies in Tulsa.

10 YEARS AGO

Seminole is the second field to have passed the 300,000-barrel per day mark in production. Cushing was first.

R. B. Whitehead, chief geologist for Atlantic Oil Producing Company, estimated that the Texas Panhandle and the Big Lime producing areas of West Texas have a reserve of three billion barrels of crude oil. He credits the northern Panhandle with 800,000,000 barrels.

Patrick Yorke, 74, noted inventor and manufacturer of oil well equipment, dies in Washington, Pa.

Franklin Fertig, 82, pioneer oil producer in Pennsylvania oil fields, dies in Pasadena, Calif.

Gulf Production Company led all producers of oil in Texas in 1926 with 18,382,062 barrels.

W. F. KOSTELKA, sales manager for Grogan Oil Company, is on a business trip to Pittsburgh, Pa., and other eastern points.

E. H. FOSTER has been promoted to the head of the Texas division of the legal department of the Phillips Petroleum Company, Amarillo, Tex.

R. M. (MONTE) WARNER, who formerly operated in West Texas, has opened offices in Fort Worth and Dallas, Tex., to engage in the lease and royalty business.

L. K. BUTLER, Union Oil Company safety supervisor of the coast and valley divisions, was recently appointed Pacific Coast chairman of the Petroleum Section of the National Safety Council.

L. A. (PETE) CRAWFORD, representative for Martin-Decker products, has just returned to his sales duties in the Mid-Continent and Gulf Coast after spending a vacation at the Martin-Decker plant at Long Beach, Calif.

F. E. BERNSEN, president of Lucey Products Corporation, will spend the next few weeks fishing in the Florida lakes near Tavares. His party includes also A. C. WILLINGHAM, general manager of the Wheland Company of Chattanooga, Tenn.

ROBERT L. HAGUE, general manager of the Standard Oil Company of New Jersey's marine department, has been nominated by the Alumni Council, Worcester Polytechnic Institute, to be a trustee for the five-year term 1937-42. Mr. Hague is a member of the class of 1903.

ROBERT G. RUSSELL, who has been connected with the Bishop Oil Company for a number of years, has been promoted to the position of superintendent in charge of the company's production and drilling operations in California. Mr. Russell will be stationed at Bakersfield, Calif.

PARAGRAPHS

TAUBERT & McKEE, drilling contractors and East Texas producers, have moved their offices from Tyler, Tex., to the Petroleum Building in Fort Worth. D. C. SHEA, geologist, is now associated with the company.

HARRY A. WILSON resigned as purchasing agent for Superior Oil Corporation to become purchaser for Taubman Supply Corporation, a subsidiary of Bethlehem Steel Corporation. He succeeds VERNE W. BAILEY, who was promoted to manager of branches and field operations for the Taubman company. GEORGE FRITZ, lately with British American Oil Producing Company, succeeds Mr. Wilson as purchasing agent for the Superior company.

W. A. SNIFFEN, assistant manager of the Magnolia Pipe Line Company, Dallas, Tex., who has been with the company since January 7, 1914, when he came to Texas from Marietta, Ohio, will retire from active service on March 1. In 1920 he became assistant superintendent of the company's main line, and in 1932 was made assistant manager of the company. He was elected a director of the pipe line company and the Magnolia Petroleum Company in 1933.

E. P. ROWE of Toronto, Ontario, returned to his office recently after a month's illness.

O. H. SHOUP, JR., of Colorado Springs, Colo., was in Denver conferring with associates regarding his oil interests.

PAUL R. TURNBULL, petroleum engineer, Humble Oil & Refining Company, has been transferred from Tyler to Corpus Christi, Tex., division.

W. H. FERGUSON, executive vice president of the Continental Oil Company, has returned to Denver, Colo., headquarters after several days' absence on business.

SAM DONALD, who returned to Canada in September from the Burmah oil fields, has purchased the F. W. Winnett machine shop at Oil Springs, Ontario.

JOHN T. GALEY, geologist and independent operator, was married Thursday, February 11, to PHYLLIS C. G. GORDON of London, England, at a very quiet wedding in New Cumberland, Md.

W. S. FARISH, chairman of board of the Standard Oil Company of New Jersey, New York, conferred with officials of the Carter Oil Company at Tulsa on Tuesday. Mr. Farish returns to New York this week.

GEORGE PRYOR, formerly connected with United Gas Public Service Company, has joined the staff of northwestern branch of Louisiana Department of Conservation as petroleum engineer, headquarters Shreveport, La.

ED CATRON, head of land department for the Rocky Mountain area for the Continental Oil Company, is recuperating from several weeks' illness at his Denver, Colo., home. H. P. McCAULEY, of the Ponca City, Okla., office, is pinch-hitting for him.

S. W. SILSLEY, with the Standard Oil Company of California, recently transferred from Piedmont, Calif., to Cheyenne, Wyo., has moved his family to the latter city.

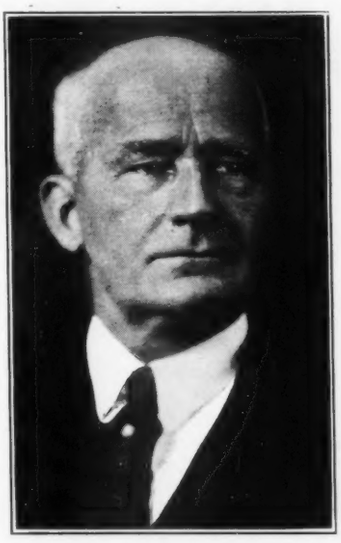
FRANK E. RUBEN, of Los Angeles, Calif., president of Del Bonita Associated Oils, Ltd., who has been inspecting operations of the company in southern Alberta, made a business trip to Vancouver, British Columbia, recently.

F. H. BAILLY, superintendent of Pantepec Oil Company, with headquarters at Caracas, Venezuela, while on a visit to California, has been taking instructions in flying. His company has provided a plane in which he expects to make trips between Caracas and the Venezuelan oil fields in a few hours, which heretofore have taken several days.

CLARENCE W. FROOME has been placed in charge of a new field operating unit of the Union Oil Company, in California, designated as the mechanical equipment unit. Mr. Froome was formerly superintendent of field shops and drilling maintenance. The new unit was created to centralize and economize the selection, purchase, installation, operation and testing of mechanical equipment and accessories used by the field department, according to EDMUND JUSSON, JR., manager of field operations. S. H. GRINNELL has been made superintendent of service and maintenance.

Awarded Lucas Medal

J. Edgar Pew's distinguished service to the petroleum industry received official recognition from the American Institute of Mining and Metallurgical Engineers, Wednesday evening of this week, when he was awarded the first Anthony Lucas medal at the institute's annual dinner.



J. EDGAR PEW

Mr. Pew, vice president of the Sun Oil Company, began his business career at 16, with the Peoples Natural Gas Company, of Pittsburgh. Ten years later he joined Sun Oil Company in Toledo, Ohio. Shortly after Spindletop was discovered, he moved to Texas and remained in charge of the Sun Oil Company operations until 1913 when he was made vice president of the Carter Oil Company and placed in charge of Mid-Continent operations. Five years later he returned to the Sun Oil Company as vice president in charge of production. In 1916 Mr. Pew was elected president of the Mid-Continent Oil and Gas Association serving three years. During this period Mr. Pew started his work of standardizing oil-field equipment. Later the standardization program was adopted by the American Petroleum Institute. Mr. Pew was president of A.P.I. in 1924 and 1925.

The official citation in the initial award to Mr. Pew of the Lucas medal reads: "For his initiation and vigorous promotion of the program of standardization of oil field equipment; for his constant championship of the use of engineering principles and talents in oil field equipment; for his able work as an administrator of a great national industrial association in bringing about a more exact national understanding of the problems of the petroleum industry."

E. M. CRAIG, president of Mar Jon Oil Company of Vancouver, British Columbia, is visiting in Toronto, Ontario.

ALVIN BONEY is a new member of the geological department of the Sinclair Prairie Oil Company at Amarillo, Tex.

PLEAS O. HARDWICK, sales manager for Atlas Oil Corporation, has just returned from a trip to New York and other eastern points.

K. SHIOMI, of the Natural Gas Institute, Formosa, Japan, is making a tour of the United States studying American methods of producing and refining oil.

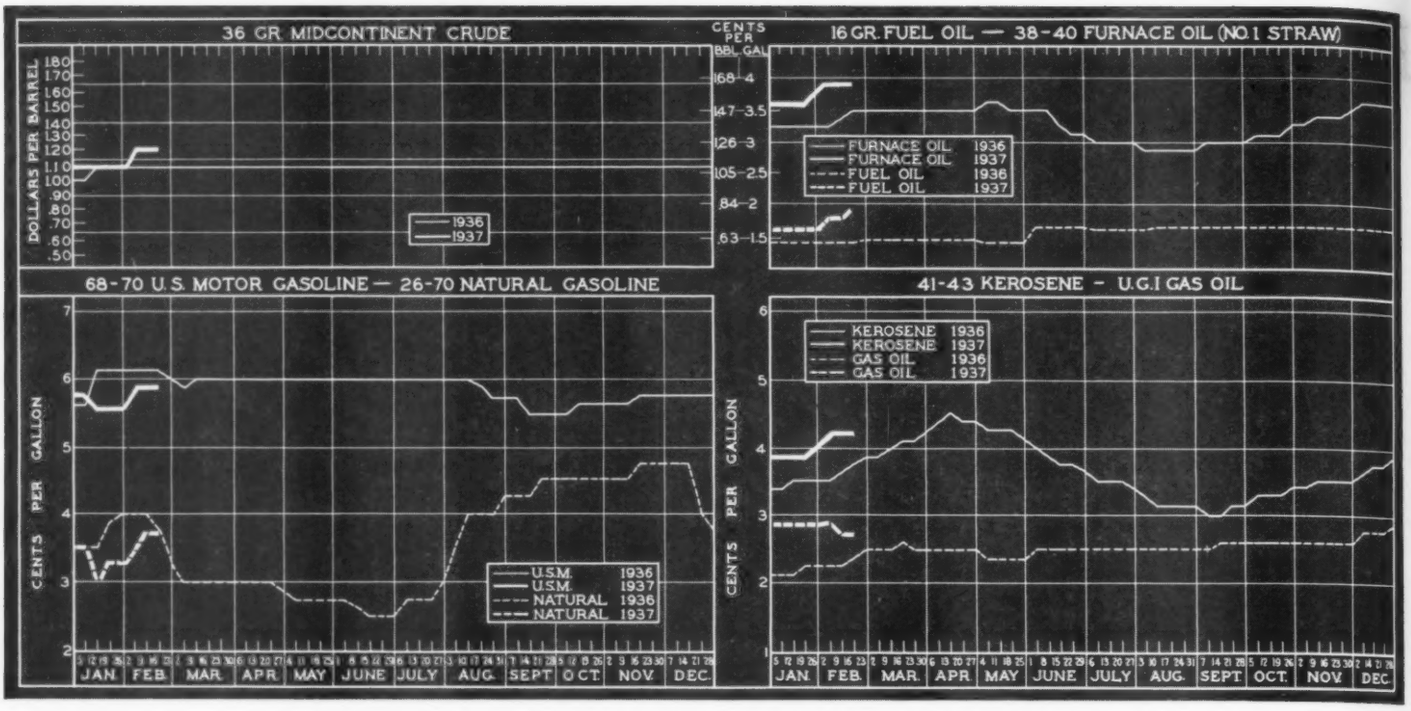
WILLIAM HENRY COURTIER, geophysist, Phillips Petroleum Company, Bartlesville, Okla., has been in charge of a field party making headquarters at Taft, Tex.

C. R. OBERMEYER, president; C. M. GWIN, vice president, and J. H. GUIN, secretary-treasurer, have organized and incorporated the Caddo Production Company, with headquarters in Shreveport, La.

WALTER L. FAUST, manager of Socony-Vacuum Oil Company, Inc.'s marine department, accompanied by MRS. FAUST, sailed from New York last week aboard the Paris for Plymouth and Havre.

W. H. HAGER, formerly active in conservation work in the state of California, has accepted position as petroleum engineer in the northwestern branch of Louisiana Department of Conservation, headquarters Shreveport, La.

F. L. COCHRAN, head of the marketing division of the Standard Oil Company (Indiana) for the Rocky Mountain area, has returned to Denver, Colo., headquarters after attending a meeting of the petroleum industries committee at Great Falls, Mont.



Representative Mid-Continent Quotations on Crude Oil and Refined Products. Basis Oklahoma (Group 3)

Indiana's Gasoline Raise Improves Balance With Higher Crude Costs

By T. F. SMILEY

Action of the Standard Oil Co. (Indiana) on Wednesday of this week in advancing gasoline tank-wagon and dealer prices .3 cent goes far toward bringing retail quotations in all areas in line with recent increases in crude prices.

Motor fuel in the Group 3 area lacked energy, though the market tone perhaps was a trifle better than last week, according to some observers. If there was any improvement—and that was doubtful—it probably was ascribable, not to increased demand, but to continued shutting down of small plants, whose owners decided they could not make a profit out of gasoline under existing conditions.

Third-grade material was admittedly more sluggish than last week, but it no longer is regarded as a trustworthy barometer of the market. The regular-grade gasoline, of guaranteed octane rating, was said to be commanding 5⅞ cents. There were reports of sales at an eighth and even a quarter less than this, but there was said to be some question concerning the octane rating.

WEATHER CONDITIONS OFFSET EACH OTHER

Blizzard weather in the Northwest was keeping many cars in the garage, but favorable motoring conditions in other areas went far toward compensating for lowered sales resulting from snow-filled highways. Subsidence of floods in the Mississippi area is accompanied by gradual return of normal traffic conditions.

If any refiner in the Group 3 territory had a car or two of heavy fuel oil this week he was confiding the fact to trusted friends only, for fear he might be crushed in the riot which open disclosure would create among buyers. Nothing resembling the present scarcity is recalled in the trade. It was difficult to find out what the ruling prices of this material were for the reason that virtually none of it was moving in the spot market. Refiners with none themselves were trying to run down some in other plants to accommodate customers, but reports were that they uncovered none. After the fuel oil shortage developed three weeks ago some observers expressed belief that various refiners were holding their material for higher prices, but that theory was abandoned when diligent combing of Mid-Continent plants failed to produce a barrel that was not needed to meet contracts.

Expansion of industrial operations has created a demand for fuel oil estimated to be at least 50 per cent higher than that prevailing at this time in 1935. Some mills are said to be taking twice as much as they did formerly. Railroads also are much greater. Though most of the material is sought to fill immediate needs, some buyers have endeavored to store against future requirements.

Most refiners expect to see a lightening of the clamor for industrial fuels within a month or so. It is pointed out that the seasonal falling off in demand for heating distillates will automatically relieve the pressure on heavy fuels. As the call for furnace oils diminishes the No. 3 grade, lowest of the group, moves down into the fuel oil classification. The trade is not losing sight of the fact that fuel oil prices can be pushed up to a point which would drive some industrial users to turn to competitive fuels.

NATURALS LACK VIGOR

Natural gasoline was showing signs of anemia, and nobody would be astonished to see prices descend a little in keeping with the conventional seasonal pattern. The North Texas market was fairly steady, but in Oklahoma it was a bit wobbly. Gratification is expressed in the trade over the better action of the naturals in the last 12 months or so, price fluctuations having been less pronounced than in former years. While 10 per cent more refinery gasoline was produced in 1936 than in 1935, there was a gain of only 8 per cent in the production of natural. Combined with this favorable showing is the fact that refiners are believed to be using a larger proportion of natural in their blends.

Kerosene, furnace oils and tractor distillates were holding their ground. Notwithstanding talk of concessions on kerosene, none seemed to be found by bargain hunters. Some refiners were themselves in the market, and if there were any surplus stocks anywhere their owners were keeping the fact secret. Bright stocks moved up a half-cent throughout the list last Friday. Wax was vigorous, with indications of higher prices.

Refined Oil Market Barometer

Favorable motoring weather throughout large areas continues a supporting factor in the gasoline market, though mounting stocks and seasonal influences forbid likelihood of real strength. Heavy fuels rising sharply in price and vigor in a sold-out market. Retail gasoline prices more generally in line with crude costs with Indiana Standard's increase in tank-wagon and dealer prices.

MID-CONTINENT. Gasoline dull. Heavy fuels extremely strong. Furnace oils firm.

EAST COAST. Good weather sustaining increased gasoline prices. Heavy fuels in demand

GULF COAST. Kerosene, burning oils strong.

CALIFORNIA. Bunker fuel and diesel strong.

PENNSYLVANIA. Bright and steam-refined stocks up. Wax strong. Neutrals soft.

CHICAGO. Kerosene strong. Heavy fuels vigorous. Gasoline draggy.

Higher Prices Are Hard to Maintain in Metropolitan Area; Weather Good

By H. STANLEY NORMAN

NEW YORK, Feb. 16.—Fair, open weather prevailing at mid-February has given rise to hopes of oil marketers for an early spring motoring season and in light of traveling conditions, the higher prices established 10 days ago for gasoline were reasonably well maintained. Local conditions around Philadelphia and Newark forced several marketers to desert their higher gasoline prices and return to levels established before the rise of a half cent per gallon.

Standard Oil Co. of New Jersey returned to its preraise tank-wagon quotations in Newark and several northeastern New Jersey points, but Colonial Beacon and Sun Oil Co. were reported to have met earlier advances in New York to more than balance off the trend. Generally speaking the marketing branch of the industry took the half-cent advance in stride and consumption continues to maintain its earlier winter advantage over demand a year ago. Marketing associations and non-affiliated dealers are now devoting a good part of their time and attention to combatting the Governor Lehman proposed cent tax increase.

Outside of the few "low pressure" areas in metropolitan New York and New Jersey and in the Boston district, gasoline prices are on a firm foundation and in position to take advantage of any further improvement, either in consumption or basic prices. Despite the high gasoline stock total in terms of barrels, the general opinion that conditions are satisfactory prevails. In light of consumption both at the moment and anticipated for the future, uneasiness over gasoline stocks is gradually disappearing.

Mild weather continues to restrict movement of light fuel oil, but the heavier grades are in firm demand and prevailing prices probably represent the minimum. The three or four-day flurry of subfreezing weather during the first week of February made definite inroads into stocks held by dealers. However, dealers were slow to replace oil removed from tanks in view of the subsequent mild temperatures and in view of the growing shortness of the burning season. Burners are still in operation, but the consumption per unit is lagging so far behind normal winters that dealers are reluctant to carry more than bare minimum working requirements. Most of the heating oil now moving is against previously lodged contracts and very little open market trading is reported. Despite the lag in per unit consumption, prices are holding firm and kerosene is working through the last stages of the burning season in fairly strong position. Suppliers who went into the burning season short of stocks have purchased sufficient in the open market at quoted prices to take up whatever slack might have developed from mild weather. The strong position on kerosene maintained by Gulf Coast suppliers has been the controlling factor on this market in the northeastern Atlantic territory. Shipping instructions against contracts combined with reasonably brisk export demand are factors enabling suppliers to resist downward pressure. There was a little kerosene reported available in the Gulf Coast last week at 5¼ cents, but it seemed to be confined completely to a limited amount and probably for accommodation of a regular customer or two.

Six cents appears the minimum at which export business can be done on 64-66, 375 endpoint gasoline on the Gulf Coast and some suppliers are holding for 6⅛ cents for March or April loading. U. S. Motor gasoline is generally quoted at 5⅞ to 5¾ cents.

One cargo of 64-66, 375 endpoint gasoline, f.o.b. the Gulf sold last week at 6 cents for March loading. The purchase, covering approximately 55,000 bbls., was for the account of a European customer. Another inquiry was in the market for a mixed cargo for March loading. Suppliers were reported quoting 6⅛ cents for 64-66, 375 endpoint gasoline; 5¾ cents for U. S. Motor and 5⅝ cents for water-white kerosene. Gas oil demand and actual business on the Gulf Coast is also reported satisfactory at prices ranging between 3¾ and 4 cents, depending on specifications.

The wax market showed some improvement last week as buyers registered more active interest. Several sales were reported of 122-124 and 124-126 a.m.p. at 2.6 cents per pound. The prices seem reasonably well balanced at New York and New Orleans at the quotation of 2.6 cents, although an occasional sale at 2.65 cents was reported. Suppliers are still unwilling to book much business for future delivery at the slightly advanced prices, feeling that buying has been on a hand to mouth basis and that the market may be forced upward by any sustained demand.

Pennsylvania bright stocks continued a strong feature of the market and despite three advances at short intervals since January 1, the supply appears well supported by demand. Eastern seaboard refiners have been heavy purchasers of bright stock in the Pennsylvania refining district and export business has been more than satisfactory. Smaller purchasers were reported entering the market along with sustained demand from the larger refiners. Part of the stocks now held in tanks of Pennsylvania refiners and reported as such as actually committed to contract for delivery to west coast customers. Shipping instructions have been delayed for several weeks in some instances due to the marine strike on the Pacific Coast.

Neutral oils were reported offered more abundantly since February 1, but there has been no inclination to shade prevailing prices so far. The price range from 20 to 26 cents per gallon, depending on viscosity, pour point, color and flash, probably will continue to attract increased offerings for the next two weeks. The demand and price structure, however, have both proceeded beyond the point at which reductions are normally expected. The heavier fuel oils, including No. 4, 5 and 6 grades, continue to enjoy satisfactory activity. The price advance of 5 cents per barrel early in February does not appear to have restricted consumption to a noticeable extent, although a few plants did switch to other competitive fuels. The increased demand of customers retained for heavier oils, however, is more than offsetting what few losses the industry suffered to other fuels. Bunker C fuel, of full specification quality, is moving in brisk fashion at the higher prices established three weeks ago at practically all Atlantic, Gulf Coast and other North and South American ports. Small amounts of Bunker C, falling slightly short of specifications, are available at 1 or 2 cents per barrel below the posted price of 95 cents on the Gulf Coast, but it represents no threat to the general market. In New York and other north Atlantic ports, the price of $1.20 per barrel seems firmly established.

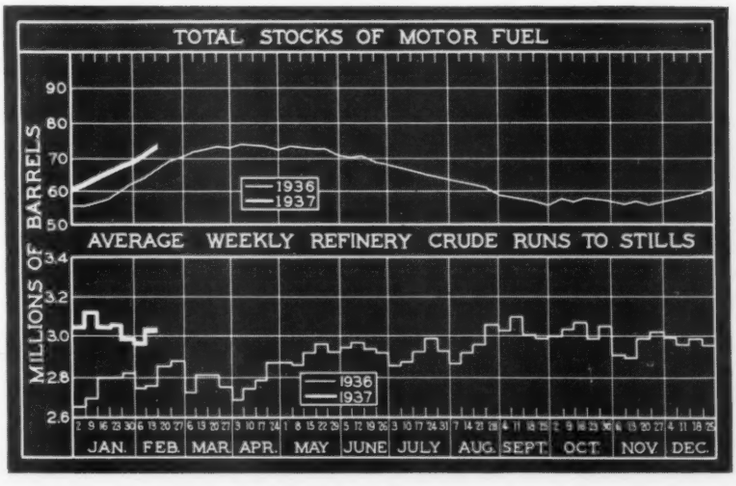
Export demand for gas oil is exceptionally strong, but dealers have met difficulty in obtaining dirty fixtures to meet buyers' shipping instructions. The tanker charter market continues high and from 1 to 2 cents per barrel more is being asked currently than prevailed in December and January. For light crudes and fuels, the Gulf Coast to United Kingdom rate currently asked is 28 cents.

A. P. I. Weekly Refinery Statistics

Week Ending February 13, 1937

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	486,000	15,894,000	7,802,000
Appalachian	88.4	100,000	2,451,000	576,000
Indiana, Illinois, Kentucky	92.1	406,000	12,243,000	4,851,000
Oklahoma, Kansas, Missouri	84.6	289,000	8,426,000	2,776,000
Inland Texas	54.3	116,000	2,063,000	1,336,000
Texas Gulf	95.5	683,000	10,732,000	6,773,000
Louisiana Gulf	96.3	123,000	1,543,000	1,785,000
North Louisiana and Arkansas	63.7	41,000	445,000	387,000
Rocky Mountains	69.7	51,000	1,659,000	715,000
California	90.9	492,000	14,132,000	70,964,000
Total reported	88.8	2,787,000	69,588,000	97,965,000
Estimated unreported	.....	233,000	3,997,000	2,770,000
*Estimated total	.....	3,020,000	73,585,000	100,735,000
*Estimated total previous week	.....	2,980,000	70,535,000	101,136,000
*February 15, 1936	.....	2,765,000	67,465,000	96,551,000

*Bureau of Mines basis, currently estimated.



RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of February 16, 1937

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wag.	Dir.	Inc. tax	tank-wag.
Chicago, Ill.	15.7	13.7	4.0	9.8
Decatur	15.7	14.2	4.0	9.8
Joliet	15.7	14.2	4.0	9.8
Peoria	15.7	14.2	4.0	9.8
Quincy	15.5	14.0	4.0	9.6
Davenport, Ia.	15.7	14.2	4.0	9.8
Des Moines	15.5	14.0	4.0	9.6
Mason City	15.9	14.4	4.0	10.0
Sioux City	15.7	14.2	4.0	9.8
Duluth, Minn.	16.5	15.0	4.0	10.6
Mankato	16.1	14.6	4.0	10.2
Twin Cities	16.1	14.6	4.0	10.2
La Crosse, Wis.	17.1	15.6	5.0	10.2
Green Bay	17.4	15.9	5.0	10.5
Milwaukee	17.0	15.5	5.0	10.1
Detroit, Mich.	15.1	13.6	4.0	9.5
Grand Rapids	16.5	15.0	4.0	10.6
Saginaw	16.3	14.8	4.0	10.4
Evansville, Ind.	17.2	15.7	5.0	†10.3
Indianapolis	17.4	15.9	5.0	†9.3
South Bend	17.6	16.1	5.0	†9.3
Fargo, N. Dak.	17.1	15.6	4.0	11.2
Minot	18.3	16.8	4.0	12.4
Huron, S. Dak.	17.5	16.0	5.0	10.6
Kans. City, Mo.*	15.1	13.6	4.0	8.6
St. Louis*	15.4	13.9	4.0	9.5
St. Joseph*	15.1	13.6	4.0	9.2
Wichita, Kans.	14.6	13.1	4.0	8.6

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax.

(Exclusive of state general sales taxes, except Indiana and South Dakota.)

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective Dec. 7, 1936, f.o.b. Chicago tank-wagon prices: Range oil, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.3 cents. Stanolex No. 1, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex furnace oil, 1-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex A, 1-399 gallons, 5.75 cents; 400 gallons and over, 4.75 cents. Stanolex B, 1-799 gallons, 5.75 cents; 800 gallons and over, 4.75 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero.
	Tank wag. dlr.	Tank car con'r.	Inc. tax	tank-wag.
Atl'tic City, N.J.	13.0	11.5	4.0	8.0
Newark	12.5	11.5	4.0	8.0
Annapolis, Md.	15.1	13.6	5.0	10.0
Baltimore	14.5	13.0	5.0	9.0
Cumberland	17.1	14.6	5.0	10.0
Wash'g'n, D.C.	12.5	11.0	3.0	9.0
Danville, Va.	17.7	15.2	6.0	12.9
Norfolk	16.5	14.0	6.0	11.5
Petersburg	16.8	14.3	6.0	11.7
Richmond	16.8	14.3	6.0	11.7
Roanoke	18.0	15.5	6.0	12.9
Charles'n, W. Va.	16.3	13.8	5.0	12.6
Parkersburg	15.6	13.1	5.0	11.2
Wheeling	15.5	14.0	5.0	12.2
Charlotte, N. C.	18.9	16.4	7.0	12.6
Hickory	19.4	16.9	7.0	13.0
Mt. Airy	19.2	16.7	7.0	12.8
Raleigh	18.5	16.0	7.0	12.1
Salisbury	19.0	16.5	7.0	12.7
Charleston, S. C.	17.5	15.0	7.0	11.1
Columbia	18.5	16.0	7.0	12.1
Spartanburg	19.2	16.7	7.0	12.9

Standard of N. J. has discontinued posting service-station prices at all above points except at Washington where a station price of 16 cents is in effect.

Price basis to commercial consumers, effective Nov. 2, 1936: On deliveries of 500 gallons or more by hose connection, consumer tankcar price plus .5 cent; less than 500 gallons, plus .75 cent, not taking deliveries by hose connection, plus 1 cent.

Above does not apply to North and South Carolina where effective Jan. 25, 1937, the price basis is: Deliveries of 50 gallons or more by tank-wagon billed at price 2 cents over posted consumer tankcar price in effect at time and place of delivery. Deliveries less than 50 gallons billed at price .6 cent over posted tankcar price. Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount (if necessary) is given.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline			Kero
	Tank wag.	Net dlr.	Inc. tax	tank-wag.
Atlanta, Ga.	21.5	18.5	7.0	*14.5
Augusta	20.5	17.5	7.0	*14.0
Macon	21.0	18.0	7.0	*14.5
Savannah	19.5	16.5	7.0	*13.0
Birm'ham, Ala.	22.0	19.0	8.0	13.0
Mobile	20.0	17.0	9.0	12.0
Montgomery	23.0	20.0	9.0	14.0
Jackson, Miss.	21.0	18.0	7.0	*13.0
Vicksburg	20.5	17.5	7.0	*13.0
Jacksonville, Fla.	20.0	17.0	8.0	12.0
Miami	20.0	17.0	8.0	12.5
Pensacola	22.5	19.5	9.0	12.5
Tampa	21.0	18.0	8.0	13.0
Lexington, Ky.	19.0	16.0	6.0	11.0
Covington	18.5	15.5	6.0	11.0
Louisville	19.0	16.0	6.0	10.0
Paducah	19.0	16.0	6.0	10.0

Price basis to tank-wagon consumers: Effective January 4, 1937, 3 cents per gallon below tank-wagon price. Kerosene prices in all states subject to 2 cents discount except in Kentucky where prices are net.

*Includes 1 cent state tax. Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon. Pensacola and Tampa, Fla., have a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Dealer	Serv. sta.	Inc. tax	tank-wag.
Denver, Colo.	17.0	....	5.0	11.0
Grand Junction	19 5	....	5 0	15 0
Pueblo	15.0	....	5.0	10.0
Casper, Wyo.	17 5	....	5.0	11 0
Cheyenne	17 5	....	5.0	13 0
Butte, Mont.	19.5	....	6.0	14.5
Billings	21.0	....	6.0	14.5
Helena	21.0	....	6.0	14.5
Great Falls	21.0	....	6.0	14.5
Salt Lake, Utah	19 0	....	5.0	16 0
Twin Falls, Ida.	21.0	....	6.0	18.0
Boise	20 5	....	6.0	18 0
Albu'que, N. M.	17.0	....	6.5	12.0

*Includes one-half cent city tax.

Discount to dealers with or without contract in Continental territory: Undivided dealer discount off service station price 4 cents except in Montana where a discount of 2 cents off tank-wagon price is allowed; divided dealer accounts 3½ cents.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank-wag
Ohio points	18.0	(†)	5.0	*13.5

*Includes state tax of 1 cent.

†Following the leasing of service stations to dealers at many points the company no longer posts a statewide service station price.

Pacific Coast Territory

STANDARD OIL CO OF CALIFORNIA

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank-wag.
San Francisco	17.0	18.0	4.0	11 5
Los Angeles	16 5	17.5	4.0	9.0
Fresno, Calif.	18.0	19.0	4.0	12.0
Phoenix, Ariz.	20.5	21.5	6.0	‡16.0
Reno, Nev.	19.5	20.5	5 0	13.0
Portland, Ore.	19.5	20.5	6.0	13.5
Seattle, Wash	19.5	20.5	6.0	13.5
Tacoma	19.5	20.5	6.0	13.5
Spokane	22.5	23 5	6.0	16.5

‡Includes 5-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: on tank-wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline			Kero.
	Tank wag. dlr.	Tank car con'r.	Inc. tax	tank-wag.
Albany, N. Y.	13 5	11.5	4.0	7.75
*Met. N. Y.:				
Manh't'n, Br'nx	13.5	12.0	4.0	7.25
State Island	13.75	12.0	4.0	7.25
Q'ns & Brklyn	13.5	12.0	4.0	7.25
Buffalo	14.3	12.67	4.0	8.25
Rochester	14.3	12.74	4.0	8.25
Syracuse	14.3	12.7	4.0	8.75
Boston, Mass.	13.3	11.75	4.0	7.50
Portland, Me.	15.3	13.0	5.0	7.75
Manch'ter, N. H.	15.8	13.5	5.0	8.00
Burlington, Vt.	15 4	13.4	5.0	8.75

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Price basis to undivided dealer: Posted dealer tank-wagon price less .5 cent. Price basis to commercial consumer: Effective Nov. 15, 1936, monthly purchases of 25,000 gallons and over, consumer tankcar prices at delivery point plus .5 cent per gallon; monthly purchases of 5,000 to 25,000 gallons, undivided dealer price at delivery point: Monthly purchases under 5,000 gallons, pay divided dealer tank-wagon price at delivery point.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline			Kero.
	Tank wag. dlr.	Tank car con'r.	Inc. tax	tank-wag.
Philadelphia, Pa.	14.0	12.5	5.0	10.5
Pittsburgh	15.5	13.5	5.0	11.0
Allentown	14.5	13.25	5.0	11.0
Erie	14.5	13.0	5.0	11.0
Scranton	14.5	13.25	5.0	11.0
Altoona	15.5	13.5	5.0	11.0
Dover, Del.	14.5	....	5.0	11.0
Wilmington	13.5	....	5.0	11.0
Springf'd, Mass.	13.8	....	4.0	7.5
Worcester	14.3	....	4.0	8.0
Hartford, Conn.	13.6	....	4.0	7.5
NewHaven	13.5	....	4.0	8.0
Providence, R.I.	12.5	....	3.0	7.5

Atlantic has transferred all stations to dealers except in Philadelphia and Pittsburgh where prices are 17.5 and 19.0 cents per gallon respectively.

Price basis to undivided dealers—Dealer tank-wagon less .5 cent per gallon.

Consuming accounts not under contract—when made by tank-wagon in quantities of 50 gallons or over, dealer price.

Commercial accounts under contract—annual consumption 2,500 to 100,000 gallons per year, 1 cent above posted tankcar price; over 100,000 gallons per year, .5 cent above posted tankcar price.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline			Kero.
	Tank wag.	Dlr.	Inc. tax	tank-wag.
Omaha	18.1	16.6	6.0	10.1
McCook	18.8	17.3	6.0	10.8
Norfolk	18.5	17.0	6.0	10.5
North Platte	18.9	17.4	6.0	10.9
Scotts Bluff	19.6	18.1	6.0	10.6

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective Jan. 1, 1935.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero.
	Tank wag. dlr.	Tank car con'r.	Inc. tax	tank-wag.
N. Orleans, La.	20.0	17.5	*10.0	†13.0
Baton Rouge	18.0	15.5	8.0	12.0
Alexandria	18.5	16.0	8.0	12.0
Lafayette	19.0	16.5	8.0	12.5
Lake Charles	19.0	16.5	8.0	12.0
Shreveport	17.5	15.0	8.0	11.0
Knoxville, Tenn.	21.0	18.5	8.0	14.0
Memphis	19.0	16.5	8.0	12.0
Chattanooga	20.5	18.0	8.0	13.5
Nashville	20.0	17.5	8.0	13.0
Bristol	19.75	18.5	8.0	14.5

*Includes 2-cent parish tax. †Includes 1 cent parish tax and 1 cent state tax.

Standard of La. has transferred all stations to dealers except in New Orleans and Baton Rouge where station prices are 23.5 and 21.5 cents per gallon, respectively.

Price basis to commercial consumers: effective Dec. 21, 1936, deliveries of 40 gallons or more in one delivery, posted consumer tankcar price plus 2 cents per gallon; consumers taking deliveries of less than 50 gallons at one time pay posted consumer tankcar price plus 6 cents per gallon.

Louisiana kerosene prices include 1-cent state tax.

Naphtha

STANDARD OIL CO (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150 gallon lots if covered by contract.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Dealer	Serv. sta.	Inc. tax	tank-wag.
Muskogee, Ok.	15.0	....	5.0	7.0
Okla. City	15.0	....	5.0	8.0
Tulsa	15.0	....	5.0	8.0
Ft. Smith, Ark.	15.0	....	5.0	10.0
Little Rock	17.5	....	7.5	9.5
Texarkana	15.0	....	5.0	9.0

Texas

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank-wag
Dallas, Tex.	14.0	18.0	5.0	8.0
Fort Worth	14.0	18.0	5.0	8.0
Houston	14.5	18.5	5.0	8.0
San Antonio	14.5	18.5	5.0	8.0

Tank-wagon price is to contract dealers and commercial consumers, the price to open dealers being .5 cent above tank-wagon price.

Canada*

3 Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank-wag.
Hamilton, Ont.	22.0	....	6.0	17.0
Toronto, Ont.	22.0	24.5	6.0	17.0
Brandon, Man.	29.8	32.8	7.0	22.3
Winnipeg, Man.	28.2	31.2	7.0	20.7
Regina, Sask.	29.5	....	7.0	22.0
Saskatoon, Sask.	32.3	....	7.0	24.8
Edmonton, Alta.	30.5	33 5	7.0	24.3
Calgary, Alta.	28.0	31.0	7.0	21.5
Vancouver, B. C.	22.0	26.0	7.0	23.0
Montreal, Que.	19.0	....	6.0	17.5
St. John, N. B.	24.0	28.0	8.0	18.4
Halifax, N. S.	24.0	28.0	8.0	18.4

*Imperial gallon used in Canada.

Discount to dealers: Divided dealers pay 3 cents per gallon below station price; undivided dealers pay 4 cents per gallon below station price except in cities of Hamilton, Toronto and Montreal when discounts below station prices are one-half cent per gallon less and in Vancouver where discounts are 1 cent per gallon more.

Retail Price Changes

Standard Oil of New Jersey Feb. 10 reduced dealer gasoline .5 cent in Newark.

Continental Oil Co. Feb. 9 reduced dealer gasoline 2 cents in Pueblo.

Atlantic Refining Co. Feb. 4 advanced tank-wagon and tankcar gasoline and tank-wagon kerosene .5 cent at all Pennsylvania and Delaware points; Feb. 4 advanced tank-wagon dealer gasoline .5 cent at all Massachusetts points; Feb. 6 advanced tank-wagon dealer gasoline .5 cent in Hartford and New Haven and .7 cent in Providence.

Standard Oil Co. of Ohio February 6 advanced tank-wagon gasoline .5 cent at Ohio points.

Hon. N. E. Tanner, recently appointed minister of lands and mines for Alberta, Canada, was the guest of honor at a banquet given by the Oil and Gas Association of Alberta at Calgary on January 29. Herbert Greenfield, president of the association, was chairman and besides the guest the speakers included R. J. Manion, Gen. Garnet B. Hughes, and a number of leading oil operators.

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of February 16, 1937

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 octane and below (3d gr.)	.04⅝	.04⅞
63-67 octane	.05⅛	.05¼
68-70 octane (regular)	.05⅞	.06
60-62 400 grades:		
62 octane and below (3d gr.)	.04⅝	.05
63-67 octane	.05⅛	.05¼
68-70 octane (regular)	.05⅞	.06
64-66 375	.05	.05⅛
68-70 360	.05⅛	.05⅜

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04⅝	.04⅞
63-67 octane	.05	.05⅛
68-70 octane (regular)	.05⅞	.05⅞
60-62 400	.04⅜	.05
64-66 376	.05	.05⅛

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:		
62 octane and below		.05⅜
63-67 octane	.06⅛	.06½
68-70 octane (regular)	.06½	.06¾

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:		
62 octane and below		.05⅜
63-67 octane	.06⅛	.06½
68-70 octane (regular)	.06½	.06¾

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04⅝	.04⅞
63-67 octane	.05⅛	.05¼
68-70 octane (regular)	.05⅜	.05⅞
60-62 400 grades:		
62 octane and below	.04⅝	.04⅞
63-67 octane	.05⅛	.05¼
68-70 octane (regular)	.05⅜	.05⅞
64-66 375	.05	.05¼
68-70 360	.05¼	.05½

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane		.05⅛
60-64.9 octane	.06¾	.07
65-70 octane	.07	.07¼
64-66 375		.05½
68-70 350		.05¾

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.07	.08
58-60 400, 65 octane and higher	.07¾	.08¾

EAST COAST (domestic)—

U. S. Motor below 60 octane:		
*New York (Bayonne)		.06¾
Baltimore		.06¾
U. S. Motor, 60-64.9 octane:		
*New York (Bayonne)		.07
Philadelphia	.07	.07¼
Boston		.07¼
Baltimore	.07	.07¼
Charleston, S. C.		.07¼
U. S. Motor, 65 and above:		
*New York (Bayonne)		.07¼
Philadelphia	.07¼	.07½
Boston		.07½
Baltimore	.07¼	.07½
Charleston, S. C.		.07½

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05½	.05⅝
60-64.9	.05⅝	.06
65 octane and higher	.06⅛	.06⅝

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)	.05	.05⅛
52-54 450 (blending)	.05	.05⅛
54-56 450 (blending)	.05⅛	.05¼

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.03¾
Grade 18-55		.04½
Low vapor pressure grade:		
*14-pound v.p. (max.)	.05	.05¼
*12-pound v.p. (max.)	.05⅛	.05¾

*Nominal.

NORTH TEXAS—

Grade 26-70		.03½
Grade 18-55	.04	.04¾

CALIFORNIA—

75-85 375-390	.06¾	.07½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70		.04⅛

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110 flash, 540-550 e.p.	.04⅛	.04½
41-43 gr., 300 350 l.b.p., 110-125 flash, 500-520 e.p.	.04¼	.04⅜
46-48 gr., 210-230 l.b.p., 480 max. e.p.	.04⅝	.04⅞

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.04¼	.04⅜
42-44	.04⅜	.04½

NORTH TEXAS—

41-43	.04¼	.04⅜

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43		.04½

ARKANSAS (Ark., N. La., Miss. del.)—

41-43		.05¼

PENNSYLVANIA (inland refineries)—

45		.05⅛
46		.05¼
47		.05⅜

CHICAGO (Based on Group 3)—

41-43	.04¼	.04⅛
42-44	.04¼	.04⅜

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.03¼	.04¼

NEW YORK (Bayonne, N. J.)—

41-43		.05⅜

***GULF COAST (domestic)—**

41-43		.05½

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.04	.04¼
No. 1 straw, 38-40	.03⅞	.04
No. 2 straw, 32-36	.03⅝	.03⅞
No. 2 dark, 32-36	.03½	.03⅝
No. 3, zero to 15, 28-32	.03⅛	.03⅝
No. 3, 15 and above, 28-32	.03	.03⅛

NORTH TEXAS—

No. 1 prime white, 38-42		.04
No. 1 straw, 38-40		.03⅞

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.03¾	.03⅞

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36	.03⅞	.04
No. 3, 28-32	.03⅝	.03⅞

CHICAGO (Based on Group 3)—

No. 1 prime white, 38-40	.03⅞	.04
No. 1 straw, 38-40	.03⅝	.03⅝
No. 2 straw, 32-36	.03⅝	.03⅜
No. 2 dark, 32-36	.03½	.03⅝
No. 3, zero to 15, 28-32	.03½	.03⅝
No. 3, 15 and above, 28-32	.02⅝	.02⅞

NEW YORK (Bayonne, N. J.)—

*No. 1		.05⅜
*No. 2		.05
*No. 4		.04⅜

*Barge deliveries one-eighth to one-fourth cent under above, tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02¾	.03
No. 4, low cold test, 24-28	1.10	1.15
No. 4, 15 and above, 24-28	.87½	.92½
No. 5, low cold test, 18-22	.85	.90
Below 18 fuel oil, industrial	.80	.85

NORTH TEXAS—

U.G.I. gas oil	.02¾	.03
No. 4, low cold test, 24-28	1.10	1.15
No. 5, low cold test, 18-22	.85	.90
Below 18 fuel oil, industrial	.80	.85

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U.G.I. gas oil	.02⅞	.03
10-14 fuel oil, industrial	.80	.85

ARKANSAS (Ark., N. La., Miss. del.)—

10-14 fuel oil, industrial	.65	.70

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅝	.02⅞
No. 4, low cold test, 24-28	1.10	1.15
No. 4, 15 and above, 24-28	.87½	.90
No. 5, low cold test, 18-22	.85	.87½
No. 6, low cold test, 10-16	.77½	.80

PENNSYLVANIA (inland refineries)—

36-40	.04⅜	.04½

CALIFORNIA—

Los Angeles:		
30-34 gas oil, per bbl.	1.00	1.25
24 plus diesel	1.00	1.25
24 plus diesel (bunkers)	1.15	1.35
12-16 (bunkers at tidewater)	.90	1.00
10-16 (cargo lots)	.75	.95
12-17 (tankers)	.75	.95
San Joaquin Valley:		
10-18 (tankcars)	.75	.90
24 plus diesel per bbl.	1.00	1.35
San Francisco:		
27 plus diesel		1.40
24 plus diesel (bunkers)		1.40
10-16 (bunkers)		1.00

GULF COAST—

28-30 gas oil	.03½	.03⅝
28-30 diesel (bunkers)		1.65
Bunkers (bulk cargoes)		.95
Bunker C (bunkers)		1.00

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04¾
28-30 diesel (lighterage 6¼c per bbl.)		1.85
28-30 diesel (tankcars)		.04¾
*Bunker C (to ocean-going ships in N. Y. harbor)		1.15
Industrial fuel (tankcars)		.04½

*Lighterage charge 5c bbl. additional.

Bright and Steam-Refined

OKLAHOMA (Group 3)—

Bright Stocks:		
190-200 D, 15-25		.22
150-160 D, 0-10		.19
150-160 D, 15-25		.18½
150-160 E, 15-25		.18
100-110 D, 0-10		.17
Steam refined:		
631 green (treated)		.14½
600 dark green (untreated)		.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 145-50 at 210, 540-550 flash):

10 pour test	.26	.26½
15 pour test	.25	.25½
20 pour test	.24	.24½
25 pour test	.23	.23½
Steam refined:		
600	.15	.15½
650	.16½	.17
600 Pennsylvania flash	.17½	.18
630 flash	.19	.19½
600 Warren E filtered	.17½	.18

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:		
150-3		.09
180-3		.10
180-4		.09½
200-3		.10½
200-4		.10
250-3		.11½
250-4		.11
280-3		.12½
280-4		.12
300-3½		.13
400-3½		.14
100-2½ paraffin oil		.05¾
15-20 Cold Test:		
200-3		.10
200-4		.09½
250-3		.11
250-4		.10½
280-3		.12
280-4		.11½

GULF COAST—

Pale Oils:		
200-3	.07	.07⅛
300-3	.07½	.07¾
500-3½	.08½	.08¾
750-3½	.08⅝	.09⅛
1,200-3½	.09½	.09¾
1,500-4	.09¾	.10
Red Oils:		
200-5-6		.07
300-5-6	.07⅛	.07½
500-5-6	.08	.08½
750	.08¾	.09
1,200-5-6	.09⅛	.09½

CALIFORNIA (moving to dom. market)

Pale Oils:		
100-2½-3	.07	.08
200-2½-3	.07	.08
300-2½-3	.07	.08
400-3-4	.09	.11
450-3-4	.09	.11
550-3-4	.09	.11
600-3-4	.09	.11
Red Oils:		
200-4-5	.07	.08
300-5-6	.07	.08
350-5-6	.10½	.11½
400-5-6	.10½	.11½
450-5-6	.10½	.11½
500-5-6	.10½	.11½
600-5-6½	.10½	.11½
700-6½ plus	.10½	.11½
750-6½ plus	.10½	.11½
900-6½ plus	.10½	.11½

PENNSYLVANIA—

150 vis. at 750° F. color, 400-405 flash:		
Zero pour test	.22	.22½
10 pour test	.21	.21½
15 pour test	.20½	.21
25 pour test	.19½	.20
180 vis. at 70° F., 3 color:		
25 pour test	.22	.22½
200 vis. at 70° F., 3 color:		
Zero pour test	.25½	.26
10 pour test	.24½	.25
15 pour test	.24	.24½
25 pour test	.23	.23½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02⅝	.02¾

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0265	.0270
124-126 (a.m.p.) w.c. scale	.0270	.0275

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0445
125-127 (a.m.p.) wax		.0455
128-130 (a.m.p.) wax		.0480
130-132 (a.m.p.) wax		.0505
133-135 (a.m.p.) wax		.0535
135-137 (a.m.p.) wax		.0560
124-126 (a.m.p.) w.s.	.0240	.0250
124-126 (a.m.p.) y.s.	.0245	.0250
Petrolatum in barrels, carload lots:		
Dark green		.01⅞
Amber	.02⅞	.03
Extra amber	.03	.03½
Lily white	.06⅝	.06¾
Snow white	.07¾	.07⅞
Cream	.05⅝	.05¾

Export Prices

GASOLINE

GULF COAST—

U. S. Motor		.05½
60-62 400		.05⅝
61-63 390	.05⅝	.05¾
64-66 375		.05⅞

LOS ANGELES—

U. S. Motor grades:		
53-55 octane		.04¾
55-65 octane	.04¾	.05
65-67 octane		.05
67-69 octane		.05⅛
Above 69 octane	.05½	.06

KEROSENE

GULF COAST—

41-43 prime white	.05	.05¼
41-43 water white	.05⅛	.05⅝
44 water white	.05⅝	.05¾

LOS ANGELES—

41-43 water white	.04½	.05

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbls.)—

Cylinder Stocks:	
600 Warren E	.24
600 S.R. unfiltered	.21½
650 S.R. unfiltered	.23
600 flash S.R.	.24
630 flash S.R.	.25
Bright Stocks:	
8 color	.29½
6½ plus color in dilution	.29

NEUTRAL OIL

200-3 color	.29½
150-3 color	.26½

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.04125
125-127 a.m.p.		.0425
128-130 a.m.p.		.0450
133-135 a.m.p.		.0525
135-137 a.m.p.		.0550
Crude scale:		
124-126 w.s.	.0260	.0270
124-126 y.s.	.0245	.0250

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

(January 28, 1937)

East Texas*	$1.27
Van, Tex.†	1.10
Camp Hill, Tex.	1.27
Cass County, Tex.‡	1.25
Talco	.73
Altus and Tipton, Okla.§	1.20
Other fields (see gravity table).	

*All companies. †Humble Oil & Refining Co.: Pure Oil Co. ‡Texas Co. §Gulf Oil Co. Talco by Humble Oil & Refining Co.

West Texas

See gravity table.

Pecos County*	.91
Pecos shallow†	.81

*Shell Petroleum Co., Gulf Pipe Line Co., and Humble Oil & Refining Co. †Shell Petroleum Corp.

Gulf Coast

(January 28, 1937)

Choctaw and Darrow, La.	See note below
Clay Creek, Tex.	$1 00
Garden Island, La.	1 37
Cleveland, Tex.	1.27
Hardin, Tex.	**1.15**
Tomball, Tex.	1.30
Lafitte, La.	**1.24**
Livingston, Tex.	**1.27**
Satsuma	**1.20**
Heyser, light (Nov. 1, 1936)	1.15
Heyser, heavy (Nov. 1, 1936)	.90
Placedo (Nov. 1, 1936)	.90
Welsh, La.	**.98**
Tepetate (La.) (Jan. 4, 1937)	1.12

Greta, Refugio, O'Connor, McFadden, Saxet, Segno, Taft, Tom O'Connor and Plymouth take same gravity prices as Gulf Coast. Duval, Jim Hogg, Webb and Zapata counties, Texas, and Heyser and Placedo fields take Mirando gravity prices. Jennings, La., 5 cents lower than Gulf Coast prices on each degree. Segno, Texas, takes Gulf Refining Co.'s Gulf Coast prices. Choctaw and Darrow, Louisiana, posted for first time by Standard Oil Co. of Louisiana, start below 21 degrees at 90 cents, with 3-cent differential up to 25 gravity, then 2-cent differential up to 40 and above, $1.36.

Rocky Mountain States

(Effective January 28, 1937)

Iles, Colo., light*	$1.18
Iles, Colo., heavy*	1.12
Greybull, Wyo.*	1.30
Torchlight, Wyo.*	1.30
Grass Creek, Wyo., light*†	1.30
Grass Creek, Wyo., heavy (Nov. 4, 1936)*†	.62
Hamilton Dome, Wyo. (Nov. 4, 1936)*	.57
Elk Basin, Wyo., light*†	1.30
Frannie, Wyo., heavy*	.62
Frannie, Wyo., light	.82
Hogback, N. Mex.*	1.33
Pondera, Mont. (Jan. 26, 1936)*	1.05
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†	1.18
Rock Creek, Wyo.†	1.20½
Lea County, N. M. (see West Texas gravity table).	
Artesia, N. Mex.	.90
Maljamar, N. Mex.	.90
Canon City and Florence, Colo.	1 10
Florence, Colo.	.98
Lance Creek, Wyo.	.97
Sunburst, Mont. (June 5, 1936)	1.20
Cat Creek, Mont.	1.40
Cut Bank, Mont.	1.35

*Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co. Cut Bank by Toronto Pipe Line Co.

Middle Western States

OHIO OIL CO.
(Effective January 28, 1937)

Lima	1.25
Illinois	1.35
Princeton, Ind.	1.35
Midland, Mich.	1.42
West Branch, Mich.	1.26
Arenac, Mich.	1.26
Muskegon, Mich.	1.00
Eastern Kentucky:	
Big Sandy River	1 42
Kentucky River	1.50
Western Kentucky	1.40

Midland, Mich., price posted by Simrall Corp. and Pure Oil Co. includes Greendale, Porter, Beaverton, Crystal and equal grades. West Branch and Arenac by Simrall Corp., effective Jan. 29. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky.

Southwest Texas

(January 28, 1937)

Pettus	1.37
Salt Flat, Darst Creek, Hilbig, Carroll, Clark, Zoboroski	1.09
Luling	1.00
Lytton Springs	1.12

Saxet and Taft take same gravity table as Gulf Coast.

North Louisiana and Arkansas

Smackover, all grades	$ .90
Tullos and Urania	1.02
El Dorado East field	.90
Union County, Ark.	.90
Ouachita County, Ark.	.90

Eastern States

TIDE WATER PIPE LINE CO.
(Effective Dec. 28, 1936)

Bradford, Pa.	$2.57
Allegany, N. Y.	2.57

SOUTH PENN OIL CO.
(Effective Dec. 28, 1936)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2.57
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.32
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.27
Pennsylvania Grade Oil in Buckeye Pipe Line lines	2.12
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Sept. 18, 1936)	1.32

PENNZOIL CO.
(Effective Dec. 28, 1936)

Pennsylvania Grade Oil in National Transit Lines:	
Group A — Includes Cochran, Franklin, Hamilton and Doolittle districts.	2.57
Group B — Includes Tidioute district.	2.56
Group C — Includes Turkey and Tidioute districts.	2.55
Group D — Includes Bear Creek and Porkey districts.	2.54
Group E — Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts. Price depends on lengths of pipe line haul to plant at Oil City.	2.51

PURE OIL CO.
(Effective Dec. 28, 1936)

Cabin Creek, W. Va.	2.27
Bradford Hollow, W. Va.	2.27
Kelly Creek, W. Va.	2.27

Canada

Ontario (Sept. 9, 1933)*

Petrolia	$2.10
Oil Springs	2.17
Turner Valley, Alberta province (Dec. 16, 1936):†	
Clear naphtha	$2.60
Discolored naphtha, 65 gravity and higher	2.30
Discolored naphtha and crude oil, 40-40.9 gravity	1.85
Increasing 3 cents for each degree of gravity with top price for 64-64.9 gravity	2.27

These prices delivered field tankage.
*Imperial Oil, Ltd.
†Imperial Oil, Ltd., and Regal Oil & Refining Co. On crude oil alone British American Oil Co. posted above prices on December 9, 1936.

Mexico

Panuco*	$1.07

*In U. S. Currency, f.o.b. ship, based on January spot market transactions.

Rocky Mountain Runs

Estimated daily average production in the week ending February 13:

WYOMING

Salt Creek	16,300
Big Muddy	1,360
Badger Basin	40
Black Mountain	60
Byron	50
Dallas Derby	530
Dutton Creek	50
Elk Basin	730
Frannie	2,230
Garland	2,640
Grass Creek	1,510
Hamilton dome	490
Hidden dome	500
Hudson	270
LaBarge	1,070
Lance Creek	10,110
Lost Soldier	1,130
Medicine Bow	2,090
Midway	30
Oregon Basin	2,210
Osage	650
Pilot Butte	20
Quealy dome	610
Rock River	2,160
South Casper	350
Poison Spider	230
Simpson Ridge	10
Teapot	20
Wertz	30
Waugh dome	60
Total Wyoming	47,540

MONTANA

Buckley Border	170
Cat Creek	570
Cut Bank	9,570
Kevin-Sunburst	3,860
Lake Basin	40
Pondera	1,200
Total Montana	15,410

COLORADO

Florence	160
Fort Collins and Wellington	290
Iles dome	2,490
Moffat	400
Orchard	90
Rangely	90
Tow Creek	160
Total Colorado	3,620

NEW MEXICO

Artesia	620
Cooper	7,750
Eunice	31,540
Getty	130
Hobbs	22,260
Hogback	290
Jal	4,080
Lea	1,010
Malmajar	2,780
Monument	12,430
Rattlesnake	820
Table Mesa	90
Total New Mexico	83,810
Total Rocky Mountain region	149,580

London Field Map

Porter Regenold of Corpus Christi, Tex., has completed an ownership and leasing map of the area surrounding the discovery well of the new London field in Nueces County, South Texas.

Crude Prices by Gravities

	1 Oklahoma-Kansas	2 Oklahoma-Kansas	3 North and Central Texas	4 East Central Texas (Mexia district)	5 North Louisiana-Arkansas	6 Gray County, Texas	7 Hutchinson-Carson counties, Texas	8 Rodessa, Louisiana-Texas and Panola County, Texas	9 Conroe, Tomball, Raccoon Bend, Satsuma, Texas	10 Gulf Coast	11 Gulf Coast	12 West Texas except Pecos County, Lea County, N. Mex.	13 Mirando district, Texas	14 Marion County, Texas	15 Government Wells, Texas	16 Anahuac, Texas	17 White Castle, Louisiana	18 Iowa, Louisiana	19 Cayuga, Texas
Below 18	....	....	....	....	....	....	....	....	....	$.90	....	....	....	....	....	....	....	....	....
18-18.9	....	....	....	....	....	....	....	....	....	.92	....	....	....	....	....	....	....	....	....
19-19.9	....	....	....	....	....	....	....	....	....	.94	....	....	....	....	....	$.92	$.94	$.84	....
20-20.9	....	....	....	....	....	....	....	....	....	.96	$.95	....	$.90	....	$.90	.94	.96	.86	....
21-21.9	....	....	....	....	....	....	....	....	....	.98	.98	....	.93	....	.93	.96	.98	.88	....
22-22.9	....	....	....	....	....	....	....	....	....	1.01	1.01	....	.96	....	.96	.98	1.01	.91	....
23-23.9	....	....	....	....	....	....	....	....	....	1.04	1.04	....	.99	....	.99	1.00	1.04	.94	....
24-24.9	....	....	....	....	....	....	....	....	....	1.07	1.07	....	1.02	....	1.02	1.02	1.07	.97	....
Below 25	....	$.98	....	....	$.90	....	....	$ 93	....	....	....	....	....	$.90	....	....	....	....	$.88
25-25.9	....	1.00	....	....	.92	....	....	.95	....	1.10	1.10	$.78	1.05	.92	....	1.04	1.10	.99	.90
26-26.9	....	1.02	....	....	.94	....	....	.97	....	1.13	1.13	.80	1.08	.94	....	1.06	1.13	1.03	.92
27-27.9	....	1.04	....	....	.96	....	....	.99	....	1.15	1.15	.82	1.10	.96	....	1.08	1.15	1.06	.94
28-28.9	....	1.06	....	....	.98	....	....	1.01	....	1.17	1.17	.84	1.12	.98	....	1.10	1.17	1.07	.96
Below 29	$1 06	....	$.96	$1.03	....	....	....	....	$1.20	....	....	....	....	....	....	....	....	....	....
29-29.9	1.08	1.08	.98	1.05	1.00	....	....	1.03	1.22	1.19	1.19	.86	1.14	1.00	....	1.12	1.19	1.09	.98
30-30.9	1.10	1.10	1.00	1.07	1.02	....	....	1.05	1.24	1.21	1.21	.88	1.16	1.02	....	1.14	1.21	1.11	1.00
31-31.9	1.12	1.12	1.02	1.09	1.04	....	....	1.07	1.26	1.23	1.23	.90	1.18	1.04	....	1.16	1.23	1.13	1.02
32-32.9	1.14	1.14	1.04	1.11	1.06	....	....	1.09	1.28	1.25	1.25	.92	1.20	1.06	....	1.18	1.25	1.15	1.04
33-33.9	1.16	1.16	1.06	1.13	1.08	....	....	1.11	1.30	1.27	1.27	.94	1.22	1.08	....	1.20	1.27	1.17	1.06
34-34.9	1.18	1.18	1.08	1.15	1.10	....	....	1.13	1.32	1.29	1.29	.96	1.24	1.10	....	1.22	1.29	1.19	1.08
Below 35	....	....	....	....	....	$.96	$.91	....	....	....	....	....	....	....	....	....	....	....	....
35-35.9	1.20	1.20	1.10	1.17	1.12	.98	.93	1.15	1.34	....	....	.98	1.26	1.12	....	1.24	....	1.10	....
36-36.9	1.22	1.22	1.12	1.19	1.14	1.00	.95	1.17	1.36	....	....	1.00	1.28	1.14	....	1.26	....	....	....
37-37.9	1.24	1.24	1.14	1.21	1.16	1.02	.97	1.19	1.38	....	....	1.02	1.30	1.16	....	1.28	....	....	....
38-38.9	1.26	1.26	1.16	1.23	1.18	1.04	.99	1.21	1.40	....	....	1.04	1.32	1.18	....	1.30	....	....	....
39-39.9	1.28	1.28	1.18	1.25	1.20	1.06	1.01	1.23	1.42	....	....	1.06	1.34	1.20	....	1.32	....	....	....
40 and over	1.30	1.30	1.20	1.27	1.22	1.08	1.03	1.25	1.44	....	....	1.08	1.36	1.22	....	1.34	....	....	....

Column 1—Companies posting are Barnsdall, Bell, Champlin, Continental, Cushing, Derby, Dickey, Eason, El Dorado, Empire, Falcon, Globe, Gulf, Johnson, Kanotex, National, Phillips, White Eagle, Stanolind, Sunray, Texas, Sun, Vickers and Wilcox.
Column 2—Anderson & Prichard, Carter, Cosco, Deep Rock, Magnolia, Mid-Continent, Pure, Rock Island, Shell, Sinclair, Skelly and Tide Water.
Column 3—All purchasers.
Column 4—Humble Oil & Refining Co. and Sinclair Crude Oil Purchasing Co.
Columns 5, 6, 7 and 8—All purchasers.
Column 9—Humble Oil & Refining Co. and Sun Oil Co. Tide Water Oil Co.'s schedule starts at 35 degrees, $1.34 with 2-cent spread up to 40 and over at $1.44. (Raccoon Bend prices are for deep sand oil.)
Column 10—The Texas Co. (Gulf Refining Co. pays same prices up to and including 34 gravity, but continues its 2-cent spread up to 40 and over at $1.41.)
Column 11—Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Sun Oil Co.
Column 12—All purchasers.
Column 13—Humble Oil & Refining Co.
Column 14—Magnolia Petroleum Co.
Column 15—Sun Oil Co.
Column 16—Gulf Refining Co.
Column 17 and 18—Shell Petroleum Corp.
Column 19—Tide Water Oil Co.

MARKET RECORD, ACTIVE OIL STOCKS

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1937 High	1937 Low	Week ended Feb. 13 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1936 High	1936 Low	1935 High	1935 Low
114	101	3,800	112¾	106¾	109¼	Amerada Corp.	788,675	N.P.	50cQ	1-30-37	$2.00	125½	75	80	48½
35⅞	30⅛	18,300	34⅞	34	34¼	Atlantic Refining	2,664,904	$25	50cQ¶	12-15-36	1.25	35⅛	26⅝	28	20½
40⅜	35⅞	16,600	39⅛	36⅞	38	Barber Co.	387,149	$10	50c	12-10-36	.50	38½	21	22½	11¾
35¼	26⅛	42,200	34¾	33	33⅝	Barnsdall Oil Co.	2,131,090	$5	25cQ	2-1-37	.80	28¼	14⅛	14⅜	5⅞
20⅞	17⅜	62,600	18	17⅜	17½	Columbia Gas & Elec.	11,610,036	N.P.	20c	11-16-36	.40	23⅜	14	15⅜	3⅜
17¼	15⅞	50,800	16⅞	16⅜	16⅞	Consolidated Oil Corp.	13,983,287	N.P.	20cQ	2-15-37	.80	17¼	11½	12¼	6½
45⅜	42¼	7,800	45⅜	44	45	Continental Oil of Delaware	4,682,671	$5	25cQ	3-29-37	1.50	44⅞	28⅛	35	15⅛
17⅜	12½	34,300	16¼	15¼	16⅛	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	13⅞	6⅜	7	1½
32⅜	29¼	9,100	32¼	30⅞	31⅞	Mid-Continent Petroleum	1,843,872	$10	75cSA	12-1-36	1.15	30⅞	17¼	20½	9½
29⅜	26⅞	2,900	28½	27¾	28¼	Mission Corporation	1,399,345	N.P.	....	.....	.45	29⅞	16¾	17¾	10⅜
71½	62	3,500	70½	69	70½	National Supply of Delaware	382,591	$25	....	5-15-31	....	75½	19⅞	20⅞	9
19½	17⅛	28,700	19	18¼	18¾	Ohio Oil Co.	6,563,377	N.P.	35cSA	12-15-36	.60	18	12⅛	14¼	9¼
28	22¼	24,400	28	26	27½	Pacific Western Oil	1,000,000	N.P.	65c	12-18-36	.65	23½	11¾	14	6¾
4½	2¾	6,000	3⅞	3	3	Panhandle P. & R.	198,770	N.P.	....	.....	....	4¼	1⅜	1⅞	½
57½	49½	15,700	57½	55⅝	56⅜	Phillips Petroleum	4,152,836	N.P.	50cQ	3-1-37	2.50	52⅜	38⅛	40	13¾
27⅛	24⅝	10,400	26⅞	25	25⅞	Plymouth Oil Co.	1,050,000	$5	40c	12-22-36	.90	27¾	11⅞	13	6½
24⅜	19¾	54,600	23⅞	22⅝	23⅛	Pure Oil Co.	3,038,370	N.P.	....	9-1-30	....	24⅞	16	17	5⅞
47¼	41	4,900	45	43	43⅛	Seaboard Oil of Delaware	1,244,283	N.P.	25cQ	12-15-36	1.00	44	30½	36⅞	20¾
31½	26⅞	18,900	31½	28⅞	31¼	Shell Union Oil	13,070,625	N.P.	25c	12-15-36	.25	28¼	14¾	16½	5½
105⅜	102¼	700	105	104⅞	105	Shell Union Oil 5½% pfd.	400,000	$100	26⅛c	12-15-36	28.87½	127½	102	111	63⅛
4⅛	3½	1,400	4	3¾	3⅞	Simms Petroleum	461,698	$10	50c liq.	1-9-37	2.25 liq.	6¾	3½	18¾	4¾
47	42	5,900	46⅜	45	45⅝	Skelly Oil	1,008,514	$15	....	12-15-30	....	47⅜	19½	20½	6½
19½	16¼	126,200	19½	18¾	19	Socony-Vacuum	31,151,075	$15	25cSA	3-15-37	.70	17½	12½	15⅜	10⅝
49⅝	43¼	34,100	49⅜	48⅛	49⅜	Standard Oil of California	13,014,754	N.P.	30cQ¶	3-15-37	1.20	47⅝	35	41⅛	27¾
50	46½	12,000	50	48⅞	49	Standard Oil (Indiana)	15,215,677	$25	40cQ¶	3-15-37	2.40	48½	32¾	33⅜	23
32	31	No sales ..	..	..	..	Standard Oil of Kansas	200,000	$10	$1	12-26-36	1.00	31	25	32	20
72⅞	67¾	71,600	72⅞	71⅛	72⅞	Standard Oil of New Jersey	25,856,081	$25	$1.25SA¶	12-15-36	2.00	70⅜	51⅛	52⅜	35¾
77½	73	700	75	73	73	Sun Oil	1,733,013	N.P.	25cQ	3-15-37	$1 & 6% Stk.	91	70	77	60½
59⅜	50⅝	49,600	58⅝	52⅛	54⅜	Texas Corp.	9,340,069	$25	50cQ	4-1-37	1.50	55¼	28⅞	30¼	16½
9¼	7⅞	19,400	8¾	8⅛	8½	Texas Gulf Producing Co.	888,110	N.P.	5c	12-15-36	.05	8⅞	4⅜	4¾	2½
16⅝	13⅛	21,700	16⅜	15½	16	Texas Pacific Coal & Oil	880,703	$10	10c	3-1-37	.25	15¼	7½	9¼	3¼
21⅝	20¼	13,700	21½	20¾	20⅞	Tide Water Associated	5,642,342	N.P.	15cQ	3-1-37	.70	21¾	14¾	15⅞	7⅝
108	105⅛	4,200	106¾	106⅛	106½	Tide Water Associated pfd.	626,221	$100	$1.50Q	1-2-37	6.00	106½	100⅝	104½	84
28¼	25¼	37,900	27⅞	26⅛	27⅛	Union Oil of California	4,386,070	$25	25cQ	11-10-36	1.00	28½	20¾	24	14¾
31½	26¾	3,600	30¾	30	30¼	Union Tank Car Co.	1,200,000	N.P.	40cQ	3-1-37	1.20	31⅝	22⅝	26½	20⅞
6¼	4½	8,000	6⅛	5¼	6⅛	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	5¼	2¾	3⅛	1

*Ex-dividend. †Plus extras ‡Also 50 per cent in stock of Barnsdall Ref. §Partly on account of accumulation. ‖Dividend 4/75 Mission Corp. paid 3-15-35. ¶Includes extras. **Plus 6% stock.

New York Curb Exchange

1937 High	1937 Low	Week ended Feb. 13 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1936 High	1936 Low	1935 High	1935 Low
21⅜	17⅛	2,400	19⅝	18⅝	18⅝	Bridgeport Machine Co.	260,000	N.P.	$1	12-21-36	$1.00	21	13¼	14⅛	3¾
50½	46	650	50½	50	50	Buckeye Pipe Line Co.	200,000	$50	$1Q	3-15-37	3.25	50	39¾	42½	30½
2¾	2⅛	11,600	2½	2⅜	2⅜	Carib Syndicate	799,020	25c	....	.....	....	4⅞	1⅞	4¼	1⅝
115	110¼	50	112	112	112	Chesebrough Mfg. Co.	120,000	$25	$2.50Q†	12-21-36	7.00	124¾	105	157	115
5⅜	4⅛	60,100	4¾	4¼	4⅜	Cities Service	37,804,394	N.P.	....	6-1-32	....	7⅜	3	3¼	¾
4⅝	3¼	5,000	3½	3⅜	3½	Cosden Oil	399,687	$1	....	.....	....	4½	1½	1½	¼
38	34⅛	5,400	36½	35¼	35½	Creole Petroleum	6,974,356	$5	25cSA	12-15-36	.50	39	19⅞	23¾	10
18½	16	2,600	18	16⅝	18	Darby Petroleum	351,390	$5	25cSA	1-15-37	.50	18⅛	9	8⅞	4
7⅛	5¼	1,500	6⅞	6½	6⅞	Derby Oil & Refining	263,162	N.P.	....	.....	....	6¾	1⅞	2	¾
47½	46½	150	47½	47½	47½	Eureka Pipe Line	50,000	$50	$1Q	11-2-36	4.00	47½	38½	38	33¼
63½	57¾	9,300	61¼	59½	60	Gulf Oil Corp.	9,076,202	$25	25cQ	4-1-37	1.50, 100% Stk.	59	36	74¾	50¼
87	77½	7,300	87	85⅞	86¾	Humble Oil & Refining	8,923,935	N.P.	50c†	12-26-36	1.50	80	57	64	44
22	21	4,200	21⅞	21½	21⅞	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	12-1-36	1.25	24½	19¾	22½	15⅜
10⅜	7¾	3,500	10¼	9⅜	10¼	Indiana Pipe Line	300,000	$10	20c Spl.	12-17-36	.80	9¾	5½	6⅛	3⅝
36	33¾	9,500	35⅛	34⅜	34⅞	International Petroleum	14,247,088	N.P.	$1.25†‡	12-1-36	2.50	39⅝	32⅝	39¾	28
15¼	13¼	7,000	14	13⅜	13⅞	Louisiana Land & Exp.	3,000,000	N.P.	20cQ†	12-15-36	.50	15⅜	9⅞	11⅜	4⅜
19½	16⅛	4,200	18⅛	17	18⅛	Lion Oil Refining	270,000	N.P.	25cQ	12-26-36	.75	17¾	7⅜	8⅛	3½
14¼	11⅝	4,500	13⅛	12½	13	Lone Star Gas	5,382,723	N.P.	20c	12-24-36	.60	14¼	9⅞	10⅞	4½
7⅞	6	7,000	7¾	7¼	7¼	Mountain Producers	1,682,182	$10	30cSA	12-21-36	.60	8⅜	5	5¾	4⅛
19½	17½	4,900	18½	17⅞	18¼	National Fuel Gas	3,810,183	N.P.	25cQ	1-15-37	1.00	23	17⅜	20	11¾
11⅞	10	600	11¼	10⅞	11¼	National Transit	500,000	$12.50	35cSA	12-15-36	.75	15¾	9¼	10⅝	6¾
6	4¾	200	5½	5¼	5¼	New Bradford Oil	1,445,202	$5	10cSA	5-15-36	.10	4⅝	2⅞	3¼	2
5	3½	3,600	4	3¾	4	New Mexico and Arizona	1,000,000	$1	1c	12-1-36	.01	6⅝	1⅝	2½	1
5¼	5⅛	No sales ..	..	..	..	New York Transit	100,000	$5	15cSA	10-15-36	.35	6¼	4¼	4⅞	3
9½	7½	800	9½	8¼	9½	Northern Pipe Line	120,000	$10	35c	1-2-37	.40	9¾	4⅞	8	5¼
9⅝	7⅛	66,900	8⅝	7½	7¾	Pantepec Oil	1,608,700	N.P.	....	.....	....	10⅛	3¼	4⅜	1¼
13¾	10½	6,200	11⅞	10¾	11⅞	Root Petroleum Co.	336,045	$1	25c	11-2-36	.50	19¼	4½	5	1½
6½	4¼	1,200	5⅝	5¼	5¼	Ryan Consolidated	296,931	N.P.	....	.....	....	4¾	1⅞	2½	⅝
48	44	400	47	46½	47	South Penn Oil	1,200,000	$25	90c†	12-29-36	2.60	44	32½	34½	21⅝
6⅜	5	100	6¼	6¼	6¼	Southern Pipe Line	100,000	$10	20cSA	3-1-37	.25	7⅞	3¼	5	3⅞
42	38	50	39	39	39	South West Penna. Pipe Lines	35,000	$50	$1Q	10-1-36	13.00	60	44	56	44¼
20⅜	19⅛	3,900	20⅛	19⅝	19¾	Standard Oil of Kentucky	2,604,790	$10	50cQ†	12-15-36	1.35	23⅜	17⅛	24	18
13¼	11½	100	13	13	13	Standard Oil of Nebraska	188,403	$25	25c	12-19-36	.25	14⅝	11	12	7¾
40¼	33¼	5,800	40½	38¼	38½	Standard Oil of Ohio	753,740	$25	$1.50†	12-21-36	2.00	40	21¾	23⅝	11½
4⅞	4	29,100	4⅞	4¾	4¾	Sunray Oil	1,910,748	$1	5c	12-21-36	.10	5	2⅝	2⅞	⅞
7¾	6⅛	1,700	7¼	7	7⅛	Texon Oil & Land	336,028	$2	15cQ	12-28-36	.60	9¾	5⅜	6⅞	5

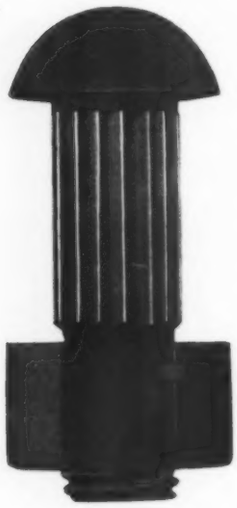
*Ex-dividend. †Includes extras. ‡Payable in Canadian funds. §New stock.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

NEW OR IMPROVED EQUIPMENT

Anco-Nuts Lock and Unlock With Ordinary Wrench

The structural rib bolt, shown in the accompanying illustration, has been put on the market by the Automatic Nut Co., Lebanon, Pa., as a substitute for riveting when used with the Anco-nut.



Enumerating the advantages of these devices, the manufacturer points out that it eliminates the cost of dismantling, as the Anco-nut locks and unlocks with the use of an ordinary wrench. The structural rib bolt and the Anco-nut have standard threads and can be galvanized without affecting the locking feature. The noise of the riveting-hammer is obviated. The expense of replacing condemned rivets is done away with. The lock is an integral part of the nut.

The standard American Boiler Makers Association button head is used on the structural rib bolt. The triangular ribs embed themselves in the wall of the hole of the work. Spacing is the same as for rivets. The rib bolt is driven through the hole with hand-hammer or sledge and the nut is drawn tight with a structural wrench. Applications include buildings, bridges, cars, tanks, and towers.

Anco-nuts stay locked because the end of the locking-pin travels between the threads and the bolt. In doing this the pin assumes automatically a fixed angle, and establishes a point of impingement against the bolt, the pin biting into the body of the bolt and thus maintaining an anchorage against vibration and shock. This impringement really acts as a ratchet, moving up and taking a new bite as the nut is drawn tighter, but always resisting and preventing the nut from moving in the opposite direction and becoming loose.

Bulletins, Booklets and Other Literature for the Trade

A clever mailing-piece ready for distribution by the Leeds & Northrup Co., 4901 Stenton Avenue, Philadelphia, Pa., explains the silver-anniversary model of the Micromax, a recording instrument suitable for many uses in the oil industry. This "die-out ND1," as it is called, is a folder cut to the actual shape of the recorder. The reader opens the door of the case, swings out first the chart-carriage and then the whole mechanism, as with a real Micromax.

All-rubber protectors for drillpipe and casing are the subject of an illustrated eight-page bulletin ready for distribution by the Patterson-Ballagh Corp., Ltd., 1900 East Sixty-fifth Street, Los Angeles, Calif.

A request sent to the Imler & Hause Co., Seminole, Okla., brings an illustrated circular, describing the company's new double-grip tubing-hanger.

Providing a complete list of all locations of JoneSuckeRod field stocks, the S. M. Jones Co., Toledo, Ohio, and Tulsa, has published a booklet showing the locations of all distributors' stocks. Distributors names are arranged by states and then alphabetically by stocking points.

The Metallizing Co. of America, Inc., with general offices at 1351 East Seventeenth Street, Los Angeles, Calif., has prepared for distribution a 36-page booklet presenting a complete photographic story of the metal-spraying process.

"Strength Plus—Monel for Mechanical Jobs" is the title of an illustrated 48-page booklet offered by the International Nickel Co., 67 Wall Street, New York. It presents the story of this nickel-copper alloy, whose combination of mechanical properties with resistance to chemical corrosion has provided the answer to many problems.

Friendly Chat, published by Baker Oil Tools, Huntington Park, Calif., is just what its name suggests, and should be welcomed at every desk it reaches.

Davis Regulator Co., 2543 South Washtenaw Avenue, Chicago, offers a novel chart designed to enable anyone to make a quick and accurate selection of the proper type of pressure-reducing valve to use for any kind of service on steam, gas, air, oil or water.

A four-page bulletin obtainable from the Duraloy Co., Pittsburgh, Pa., describes Duraloy equipment for the power plant as heat-, corrosion- and abrasion-resisting. Soot blower tubes, baffles, dampers, superheater hangers and supports and miscellaneous parts are discussed.

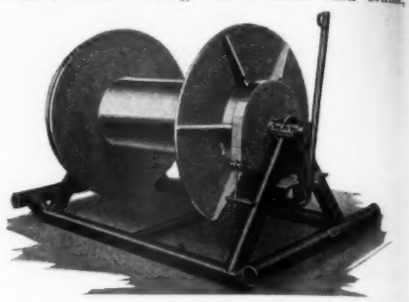
Lithcote, Plastic and Flexible Enamel Coating Developed

Lithcote is the name of a new plastic and flexible enamel coating developed by the Lithgow Corp., 11 South LaSalle Street, Chicago. The oil and chemical industries are said to have found Lithcote to be a very flexible and impervious material when applied to metals of all kind in the form of pipe, tanks and vessels. So far Lithcote is reported to have been found impervious to the action of acids or alcohols and to withstand steam sterilization or any motion of the metal to which it is bonded.

Lithcote, the manufacturers say, will withstand a steel temperature from 109° below zero to 800° F., and is impervious to all petroleum and petroleum solvents, withstanding all atmospheric condition and brine solutions of any strength. Lithcote is a sterile coating, brush-applied and bonded to the material through a special baking process.

Bridgeport Develops Appliance for Spooling of Wire Lines

The Bridgeport Machine Co., Wichita, Kans., has placed on the market a mechanical wire-line spooler, which is said to be an improvement on the conventional method of installing the drilling line on the bullwheels and removing it. The unit consists of a flanged steel drum, mounted on alemite-lubricated bearings in a steel skid frame,



which is fastened to the derrick floor by attaching chain and boomers to the loops at the front and rear of the frame. It is driven by a bullrope tugrim on the drum-flange or from a sprocket-wheel attached to the extended shaft. A friction-type adjustable brake is controlled either from the driller's position at the throttle or by a hand brake-lever in front of the unit.

The manufacturers say that when spooling or unspooling, the tension on the wire line is under positive control, so that the likelihood of twisting or kinking the line is minimized, and that the wire is spooled tightly, evenly and uniformly on the drum, in a fraction of the time ordinarily required for the operation. Hazards of injury to crew and equipment are reduced and unspooling is rapid and safe. The unit is especially convenient to load, and handy to haul from location to location. Complete information may be obtained by asking the Bridgeport Machine Co., Wichita, Kans., or any of the company's branches for Bulletin No. 71.

Goodrich Buys in Cadillac

Purchase of a factory site and building in Cadillac, Mich., is announced by the B. F. Goodrich Co. from its principal offices in Akron, Ohio. The factory, formerly occupied by the Acme Motor Truck Co., contains 100,000 square feet of floor space.

Rodman Supply Co., Odessa, Tex., has opened another store at McCamay, Tex. G. (Chili) Bennett is in charge.

RIG AND REEL SALESMEN HOLD ANNUAL CONFERENCE

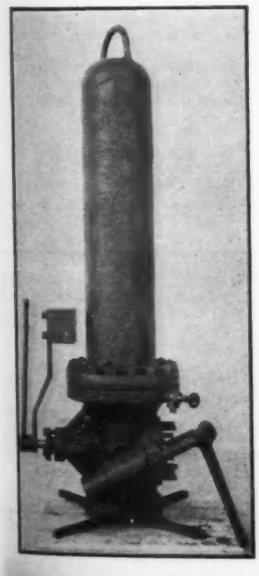
The fourteenth annual sales conference of the Parkersburg Rig & Reel Co., held recently at the general offices of the company in Parkersburg, W. Va., was attended by district managers, salesmen and field engineers from 27 branches, representing every oil-producing region in the country.

Special Seismic Equipment Is Provided for Portable Use

Seismograph Service Corp., Tulsa, recently sent a crew of five men with this equipment to Port of Spain, Trinidad, to start a program of exploration there for the Antilles Petroleum Co. of Trinidad. Such equipment usually is mounted in a truck, but in view of the fact that the work in Trinidad is portage work, through swamps and over timbered hills, it was especially constructed in units not exceeding 100 pounds each, and mounted in waterproofed cases. These instruments are entirely standard otherwise, and nothing was sacrificed to make them portable. The equipment was designed and manufactured for Seismograph Service Corp. by Engineering Laboratories, Inc., Tulsa.

Protecting Surge-Chamber Is Provided for Power Pumps

The Gardner-Denver Co., Quincy, Ill., has brought out a new surge-chamber for use on its large power pumps. This surge-chamber, to protect the pump, discharge-line and rotary hose from surge or oscillating pressures in the discharge-line, is provided as standard equipment with each pump.



Because of the absorption of the air by the fluid at higher pressures, means for charging the surge-chamber with compressed air must be provided.

Most diesel-engine-driven rigs have compressed air available for starting the engine, so all that is necessary is to connect an air-line to the engine starting-tanks.

Where compressed air is not available a small compressor driven by a motor or gasoline engine is required.

Each surge-chamber is provided with an automatic pressure relief-valve and hand-operated release-valve.

Here and There With Men Who Manufacture Equipment

Charles B. Veit has been appointed sales manager of Wright Manufacturing Division of American Chain & Cable Co., Inc., York, Pa., and S. J. Woodworth was appointed district manager for the New York territory, with headquarters at 230 Park Avenue, New York. Both men have been associated with the company for years.

The New York Belting & Packing Co. has appointed Crerar, Adams & Co., 3550-3558 South Morgan Street, Chicago, distributor of the former's line of mechanical rubber goods in the Chicago territory.

Tube-Turns, Inc., manufacturer of seamless drawn fittings for pipe welding, has moved to larger quarters at 224 East Broadway, Louisville, Ky.

H. C. Merritt, since 1926 manager of the tractor division, Allis-Chalmers Manufacturing Co., Milwaukee, Wis., has been elected a vice president.

Jones & Laughlin Steel Corp. will spend $7,000,000 at its Aliquippa, Pa., plant this year for a new open-hearth furnace, a rod mill, other equipment and improvements, S. H. Lewis, chairman, announced.

Republic Supply Co. has opened district offices at 1015-1018 Thompson Building, Tulsa, with J. H. Brooks, vice president and district manager, in charge.

George C. Moon has been elected a vice president and director of American Chain & Cable Co., Inc., Bridgeport, Conn., with headquarters at 230 Park Avenue, New York.

The Scheufler Supply Co., 1912 Broadway, Great Bend, Kans., has been made a repair parts station by the Twin Disc Clutch Co. The new station will cover Salina, McPherson, Hutchinson, Lyons, Great Bend and all of Kansas westward from those towns to the Colorado line.

The Lincoln Electric Co., Cleveland, Ohio, has appointed B. J. Brugge, who spent two years superintending welding operations in the Near East, to the sales staff of its Los Angeles, Calif., office.

Johnston Testers in Mid-Continent

The Johnston formation tester is now available on the Gulf Coast. Service is being given by the Johnston Oil Field Service Corp. (a Texas corporation) with principal offices at 131 Harvard Street, Houston, Tex. It is planned to establish service branches of this company in the near future throughout the major oil centers of the Mid-Continent.

Purdum to Oversee Machinery Department for Muskogee

John F. Purdum, formerly in charge of the equipment engineering department for the Stanolind Oil & Gas Co., Tulsa, has been appointed manager of the machinery department of the Muskogee Iron Works, with headquarters at the factory in Muskogee, Okla. Mr. Purdum will direct the development, manufacture and sale of machinery. Before his connection with the Stanolind Oil & Gas Co. Mr. Purdum was research engineer for the Oil Well Supply Co. and chief engineer for the American Manufacturing Co. He graduated from the Colorado School of Mines as petroleum engineer in 1930.

JOHN F. PURDUM

The Ralph N. Brodie Co., 959 Sixty-first Street, Oakland, Calif., offers a bulletin describing a tank-truck manifold for trucks having two to six compartments. The manifold is designed to prevent accidental opening of more than one compartment at a time.

TRANSMISSION PROBLEMS SUBJECT OF DINNER TALK

Transmission problems in the oil industry were discussed by R. S. Geare, vice president of the L. H. Gilmer Co., Philadelphia, Pa., manufacturer of V-belt drives, at a dinner given recently in the Mayo Hotel, Tulsa, by the Allied Equipment Co., Oklahoma City, distributor for Gilmer in Oklahoma. Guests were purchasing agents and engineers of oil companies and officials of the Gilmer organization. Representatives of the Gilmer company in addition to Mr. Geare were John H. Kraus, president of the organization, and C. P. Williams, manager of the company's Dallas, Tex., branch. Mr. Geare was the principal speaker. The dinner program was in charge of C. H. Monnette, Tulsa, representative of the Allied Equipment Co., and Ward R. Gavren, president.

Oil Man's Calendar

February, 1937

23-25—Milwaukee, Annual Convention, Wisconsin Petroleum Association.

23-25—Columbus, Ohio, Ohio Petroleum Marketers Association, annual convention and Trade Exposition, Hotel Deshler-Wallick.

23-25—Milwaukee, Wis., Wisconsin Petroleum Association annual convention, Plankinton Hotel.

Memphis, Tenn., Southwest Sales Conference, Natural Gas Department.

24-25—Des Moines, Iowa, Iowa Petroleum Association.

24-26—New York, Association of Highway Officials of North Atlantic States, thirteenth annual convention, Hotel Pennsylvania.

25-26—Tulsa, Mid-Continent district, A.P.I. Division of Production, Mayo Hotel.

March

1-5—Chicago, American Society for Testing Materials, regional meeting and committee week, Palmer House.

10-11—Indianapolis, Indiana Independent Petroleum Association Spring Convention and Refiners' and Suppliers' Exhibit, Hotel Severin.

12—Oklahoma City, Okla., Interstate Oil Compact Commission meeting.

15-19—Philadelphia, Pa., National Oil Burner & Air Conditioning exposition and convention, Convention Hall, Commercial Museum.

17-19—Los Angeles, Calif., A.A.P.G. annual meeting.

23—New York, Oil Trades Association of New York.

April

7-9—Birmingham, Ala., American Institute of Mining and Metallurgical Engineers, Open Hearth Conference.

8-10—Shreveport, La., Petroleum Industry Electrical Assn.

13—Los Angeles, Calif., American Petroleum Institute, Division of Production, Pacific Coast district, Biltmore Hotel.

15-16—Cleveland, Ohio, 34th semiannual meeting National Petroleum Association, Cleveland Hotel.

26-28—Hot Springs, Ark., Western Petroleum Refiners Association, annual meeting, Arlington Hotel.

28-30—Tulsa, Natural Gasoline Association of America, annual meeting, Hotel Tulsa.

May

6-7—Columbus, Ohio, American Petroleum Institute, Division of Production, Eastern district, Deshler-Wallick Hotel.

10—Kansas City, Mo., Spring meeting Natural Gas Department, American Gas Association.

19-21—Tulsa, Natural Gasoline Association of America, annual meeting, Hotel Tulsa.

May—June

Late May/early June—Paris, France, Second World Petroleum Congress, during International Exposition.

June

1-3—Colorado Springs, Colo., American Petroleum Institute, mid-year meeting, Broadmoor Hotel.

7—Kansas City, Mo., Oil Field, Gas Well-Refinery Workers of America.

10-12—Pennsylvania Grade Crude Oil Association, annual meeting, on Great Lakes S.S. "Seandbee," sailing from Buffalo, N. Y.

11—Santa Fe, N. M., Interstate Oil Compact Commission meeting.

25-26—Dallas, Tex. National Oil Scouts Association, annual meeting, Baker Hotel.

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	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	*$1.05*	*$1.80*	*$2.55*	*$3.30*	*7 Lines*	*$2.45*	*$4.20*	*$5.95*	*$7.70*
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5 Lines	*1.75*	*3.00*	*4.25*	*5.50*	*9 Lines*	*3.15*	*5.40*	*7.65*	*9.90*
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TO LEASE for oil purposes, several hundred acres of land in Anderson Co., Kans. Oil was drilled in on this farm several years ago. W. M. Dary, 224 E. 16th St., Long Beach, California.

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Help Wanted

WANTED—Electrical Engineer—Must be college graduate in electrical engineering. Very desirable that applicant have experience in instrumentation. State degree received, school attended, past experience, age and send photograph if available. Address Box H-650, The Oil and Gas Journal, Tulsa, Oklahoma.

MAN take charge shallow pumping production, Central Louisiana. Lee Oil Corporation, Marine Bldg., New Orleans, La.

EXPERIENCED oil accountant. State age, experience, and salary requirements. Submit small inexpensive photograph. Address Box H-662, The Oil and Gas Journal, Tulsa, Oklahoma.

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Leases, royalties in Bryson and other areas, also drilling propositions, write your wants to W. T. Brown, Denton, Texas.

FOR SALE proven field, five thousand acres, leased and six wells, Norwalk, Ohio. Write Midwest, 423 Cuyahoga Building, Cleveland, Ohio.

FOR SALE — Shallow production in eastern Kansas, two leases with six wells pumping. A. B. Frederick, Lawrence, Kansas.

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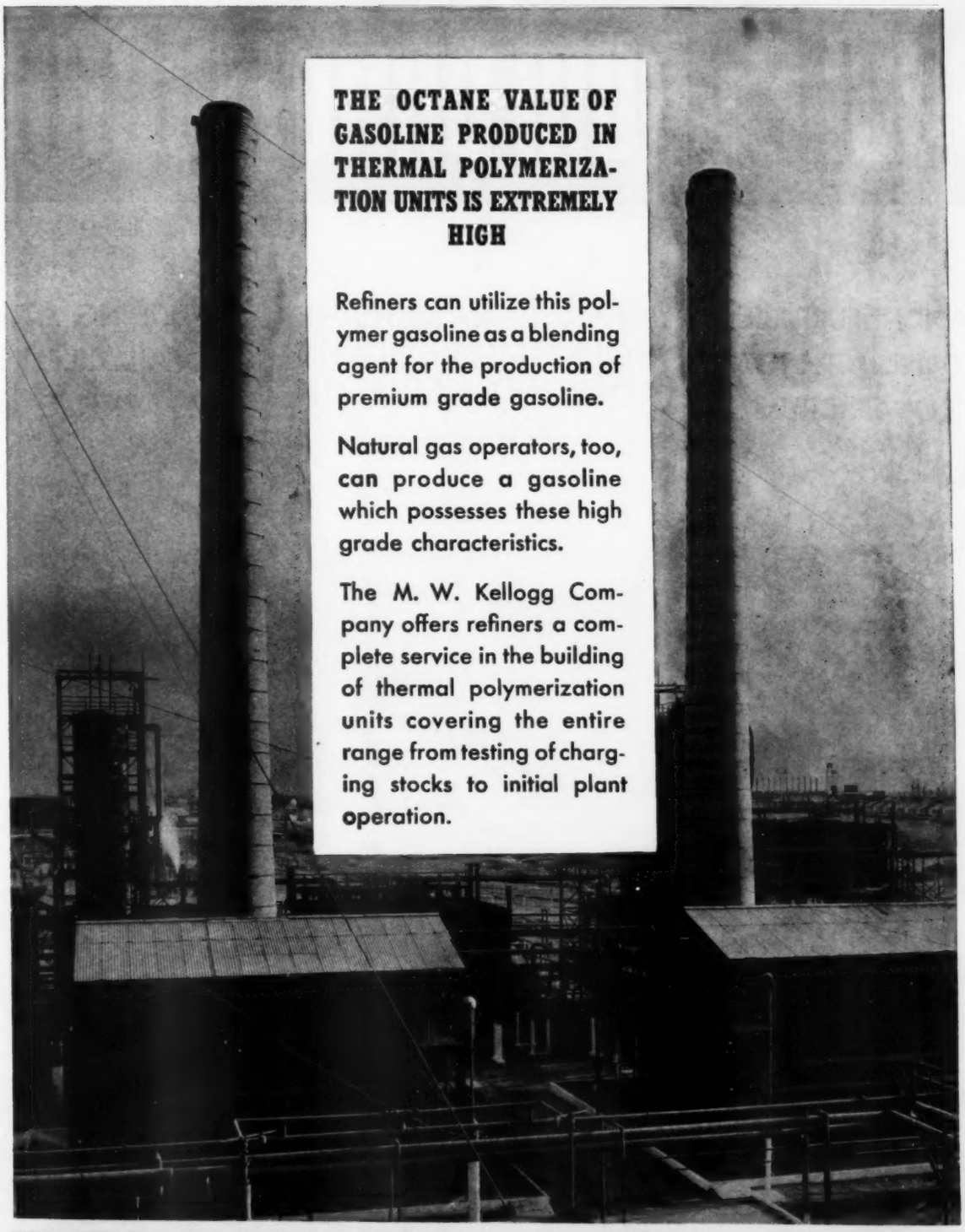
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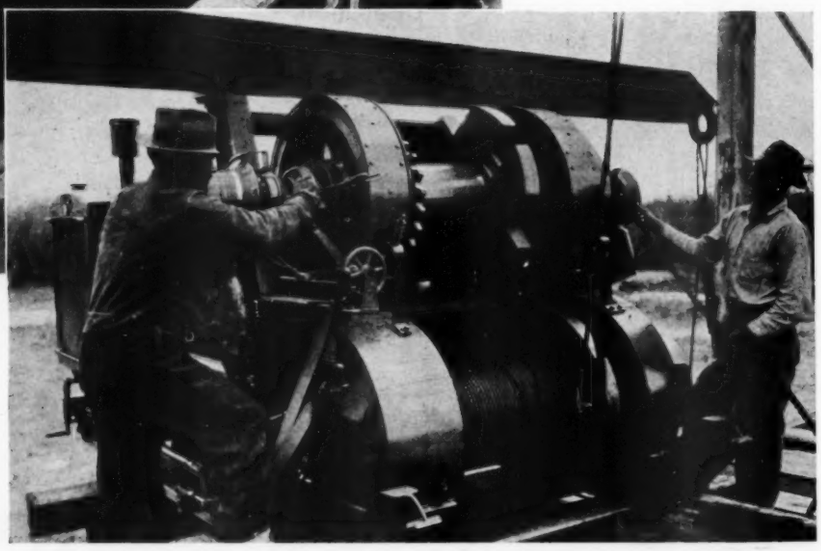

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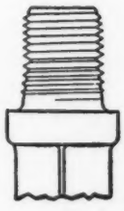
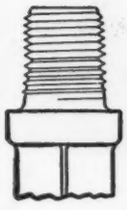
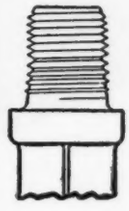


Axelson No. 60 Sucker Rods are made from exceptionally high grade carbon steel under strict alloy practice. They are fully tempered from end to end assuring consistent physical properties. The ductility and impact resistant properties of these rods is such as to indicate their practical use for all average to heavy pumping conditions.



Axelson No. 59S Sucker Rods made of special alloy steel that materially aids their resistance to corrosion, are fully normalized and tempered from end to end. They present excellent physical properties, combining increased ductility and impact resistance with high yield and tensile strengths. They are desirable for pumping wells where extra heavy loads are encountered and where irregularities in pumping movements are unavoidable.



Axelson No. 69 Sucker Rods are made from a high alloy special nickel molybdennum steel produced in electric furnaces. These rods are especially resistant to corrosion, are fully normalized and tempered from end to end. They offer excellent yield and tensile strengths, with great ductility and impact resistant properties.

Axelson Manufacturing Company, P. O. Box 710, Vernon Station, Los Angeles • St. Louis • 50 Church Street, New York • Tulsa
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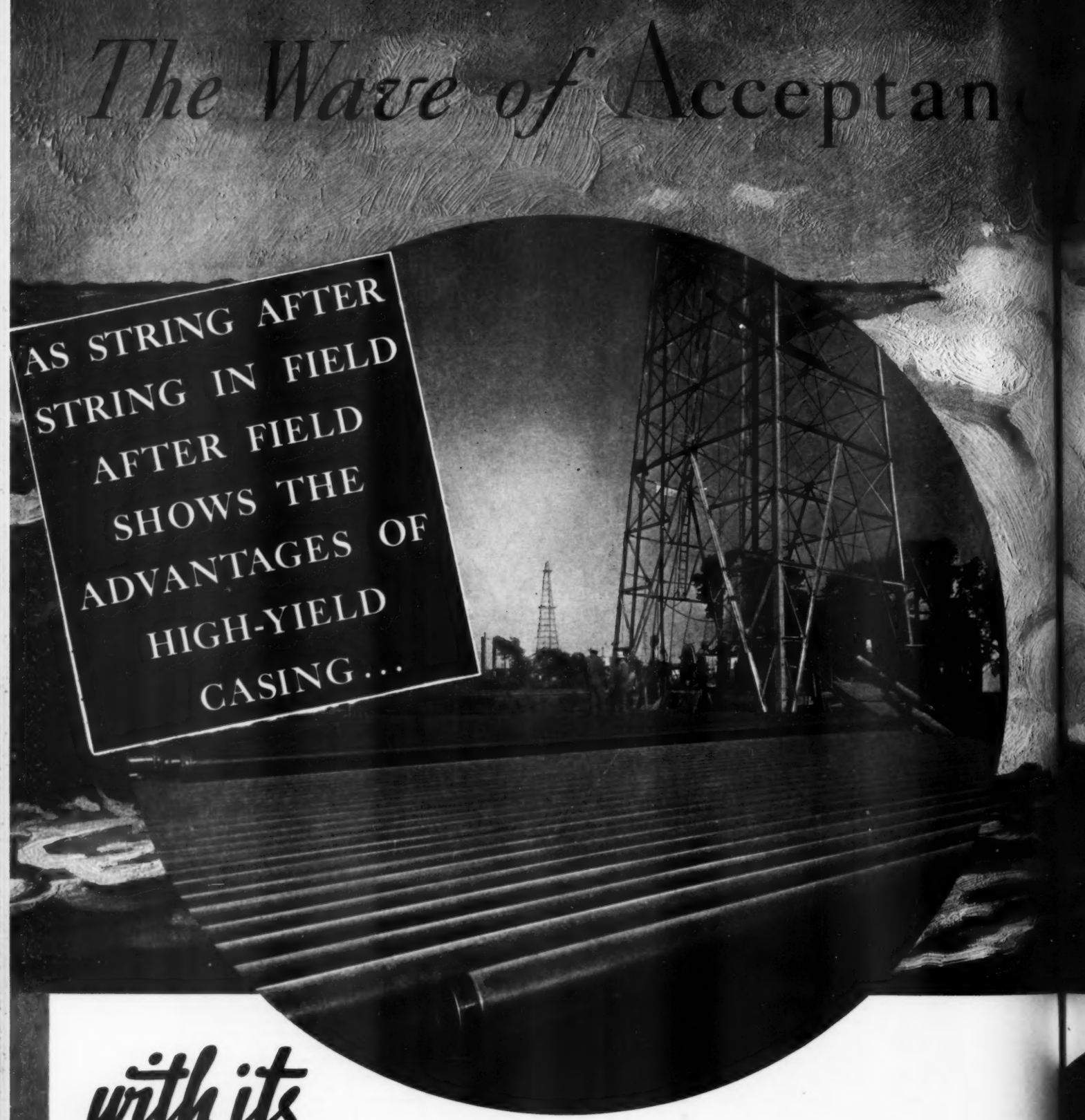
DEEP WELL PLUNGER PUMPS **AXELSON** **SUCKER RODS**

The Wave of Acceptan



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GREATER Threading Accuracy • **GREATER** Make-Up Speed

GREATER Running Speed • **GREATER** SAFETY FACTOR

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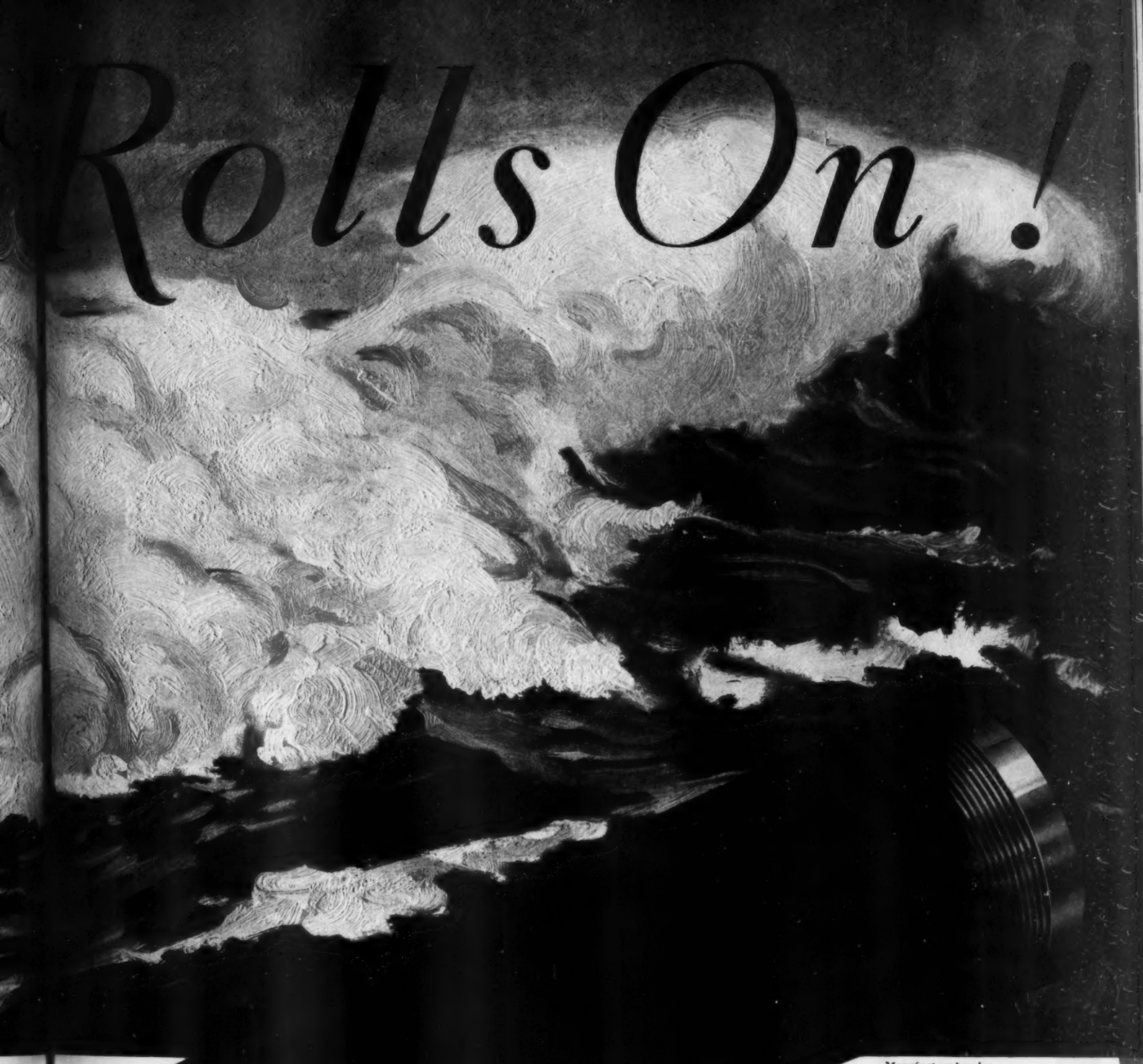

Manufactured under
U. S. Patent No. 1,993,842

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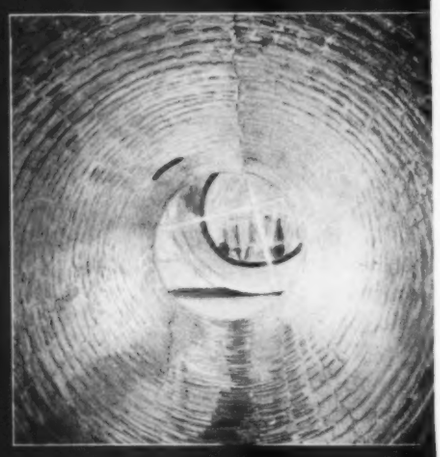

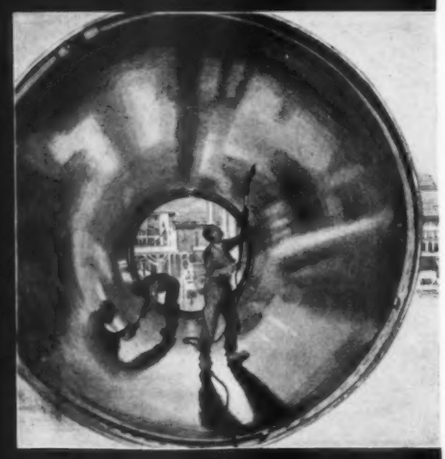

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The globe and angle bar stock types furnished with renewable seats and discs in the larger sizes may be furnished with Stellited discs for severe throttling, with lock bonnets for handling hazardous fluids, or with indicators where measured regulation is desired.

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Pratt & Cady Bar Stock Valves are made in one-eighth to one inch sizes. They are regularly furnished in bronze, carbon steel, 12% chromium stainless iron, combination carbon steel and stainless iron, and 18 and 8% stainless steel, and on order in any combination of these metals. For full information write for Catalog 859.

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Yes, a "Flex-Set" Preformed Yellow Strand Rotary Line fairly eats up work. And why shouldn't it?

For 61 years this company has made nothing but wire rope. It pioneered in the manufacture of wire drilling lines. When rotary drilling came along, we were ready with Yellow Strand, the super-rope, which had already distinguished itself wherever tough jobs were to be done.

Now, this same Yellow Strand has been given extra qualities by preforming the wires and strands before they go into the rope.

Result: A rope that is largely pre-broken in; limp, easy to handle and install; highly resistant to kinking, fatigue and drum crushing.

Put "Flex-Set" Preformed Yellow Strand to work saving money on your rotary rig.

Broderick & Bascom Rope Co.

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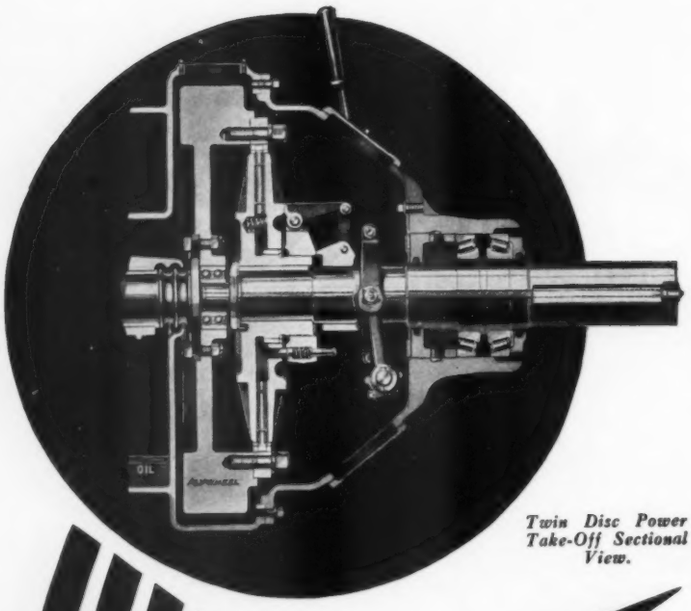


Twin Disc Power Take-Off Sectional View.

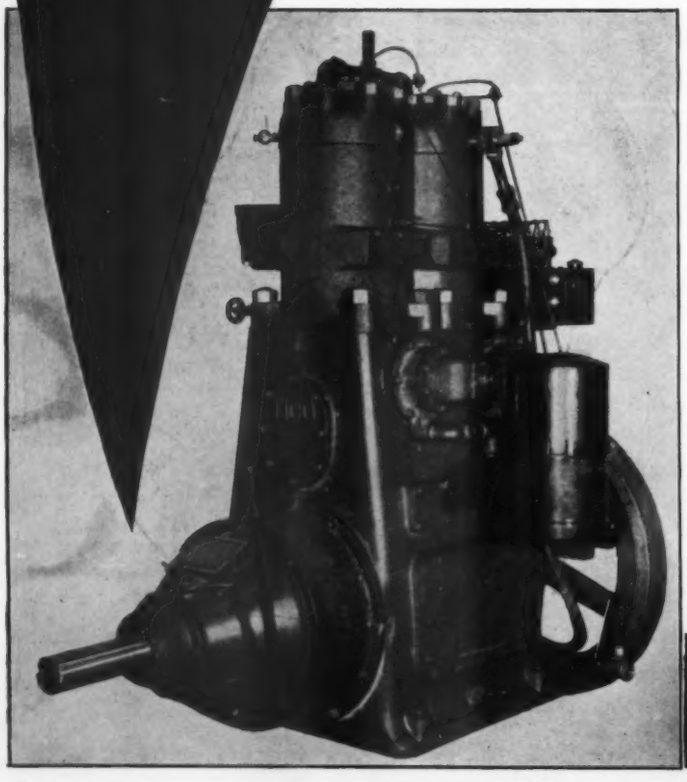
Between THE ENGINE AND THE PUMPING RIG

The vital and only connecting link between the engine and the pumping rig . . . . both of them expensive units . . . . is the clutch. And pumping performance, in a very large measure, depends upon that clutch. For clutch failure means delays . . . . and delays are not only annoying but costly.

When you buy oil field machinery look at the clutch. If it is a Twin Disc Clutch, you will know that the engine maker has protected your investment and provided one of the best possible aids to perfect pumping performance.

The Twin Disc self-contained clutch power take-off unit has become the standard link between engine and rig . . . . assuring efficient starting, easy picking up of the load and satisfactory application of pulley or V-belt drive.

Write today for specific recommendations. Engineering data on request.



This Tico Oil Well Pumping Engine . . equipped with a Twin Disc No. 8409 Power Take-Off . . is made by The Titusville Iron Works Co., Titusville, Pa. and is in use in the Kansas and Oklahoma fields. It is a two-cycle type engine of relatively low speed and even tort. It sets on a small foundation, is easily accessible, and its housing cost is very small. Made in single and twin cylinder models—sizes 7½ x 10 and 9 x 10.

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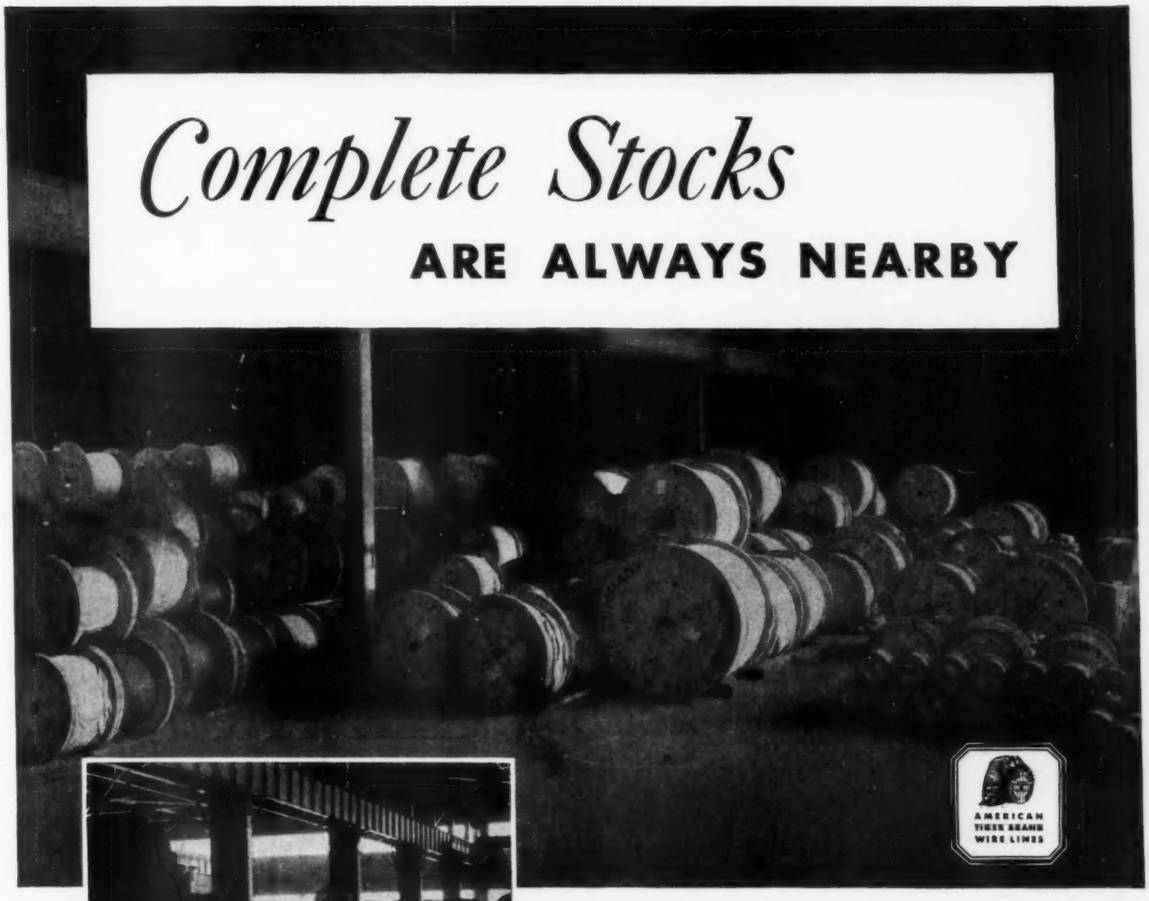

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We manufacture a complete line of Electrical Cables for the Oil Fields such as—

Amerclad All-Rubber Cords and Cables — including Oil Proof and Oil Resisting types · Rubber Covered Wire · Reliance U R C Weatherproof Wire · Motor Leads · Switchboard Wires · Geophone, Seismograph and Electrical Prospecting Cables.

IN addition to all the quality features of good wire lines, you need instant availability. When you want them, you want them right away.

That is why we and our distributors keep ample stocks on hand throughout the oil fields at all times, ready whenever your need arises. The photographs on this page show typical stocks on warehouse floors and it is a matter of a very short time from the phone call ordering a length of wire line until it is on its way to you.

American Tiger Brand Wire Lines have proved their worth in keeping equipment in operation, in doing away with costly replacements and in lowering operating costs. Experience has proved their superiority. Always use American Tiger Brand Wire Lines.

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VOGT DROP FORGED

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VOGT DROP FORGED STEEL—For better Valves, Fittings and Flanges

Electrically Operated for Pipe Line Service

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Simplicity of design, few moving parts and those inter-changeable, combined with sturdy construction give Darling Gate Valves those *extra* years of trouble-free service necessary for real economic operation.

Darling Gate Valves are built in the necessary sizes and designs for Drilling, Well Control, Pipe Lines, Well Flow Lines, Refinery, Power Plant and Compressor Stations.

A Darling Valve which has met the approval of major oil companies is designed with an electrical control unit applicable to Pipe Line and other services where automatic or remote control is desirable.

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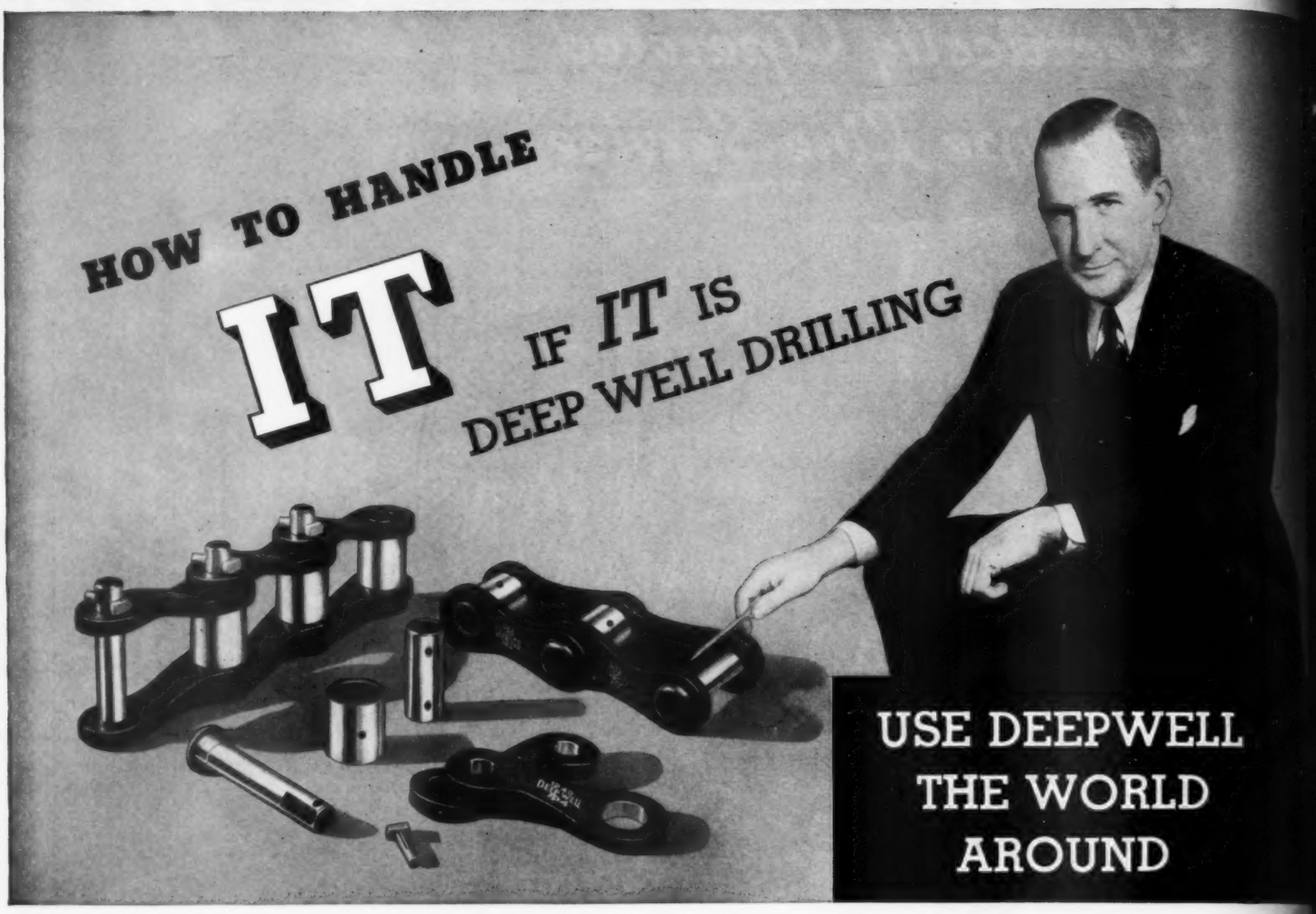
Mid-Continent Distributors: International Supply Co., Moorlane Company *California Distributors:* Hickey Pipe & Supply Co., 3375 East Slauson Ave., Los Angeles, Calif.



● Rex Deepwell Chabelco is driving rotaries the world around. In the toughest drilling of the California rocks, in the deep wells of the Gulf Coast, in Venezuela, Colombia, Iraq, Burma, Roumania, in all types of drilling, easy or hard, Rex Deepwell is driving wells at lower cost per foot of hole.

Rex Deepwell takes up the shock loads and the high speeds of modern drilling with 9, 10, even 13 lines on the block. It meets the strenuous modern tests for strength, lasting qualities and economy.

Fine finish, high strength, and the new Rex method of lubricating the pins make Rex Deepwell the lowest-cost chain per foot of hole for high-speed drilling.

Insist on Deepwell for both easy and hard drilling.

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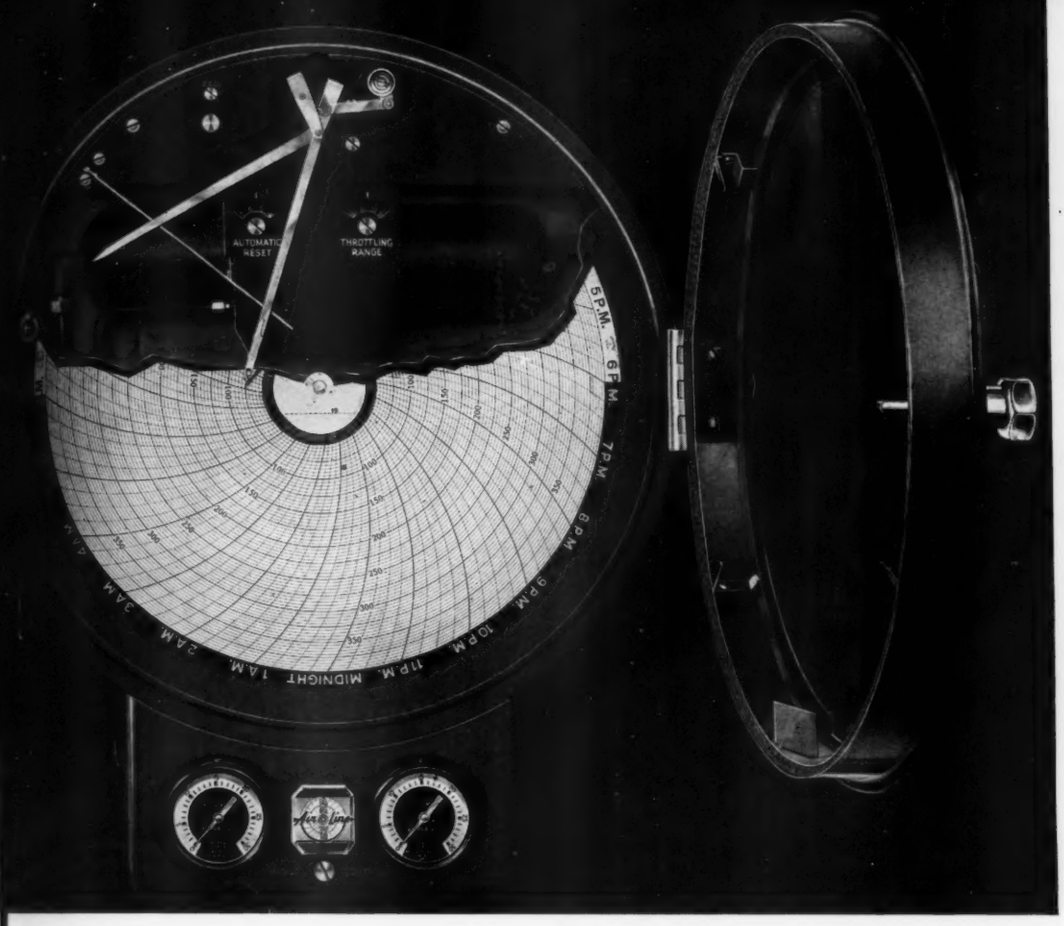
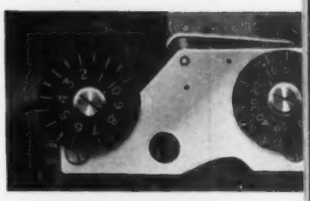




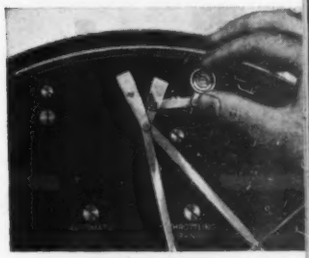
AUTOMATIC RESET DIA

The graduated dial makes it po sible to change the rate at whi the control point is automatical reset. No resistance tubing is use

THROTTLING RANGE DIA

Graduated from 1 per cent to 1 per cent throttling range. Suf cient to provide flexibility requ ed to meet any type of contr problem.

Instantly adjustable without r moving chart plate.



CALIBRATED CONTROL INDE

Control index can be set exact at any point on the chart whe control is to be maintained. Sav time when putting controller in o eration or changing to new cont point.

Other features and models fully described in Catalog 890 Write for it.

The ease with which Air-o-Line can be adapted to specific control requirements, makes Air-o-Line outstanding in performance and simplicity. It has met with the entire approval of engineers wherever installed. Air-o-Line provides an accurate and dependable means for the regulation of temperatures, pressures, flows and liquid levels.

Wherever Air-o-Line is put in charge, guesswork is eliminated because: the Graduated Dials for both "Throttling Range and Automatic Reset" enable operators to "tune in" to specific process control. There is no need to dismantle the instrument in order to obtain "top-notch" control results. Air-o-Line is "tuned in" as easily as dialing a radio.

Air-o-Line provides additional service by automatically correcting for magnitude, rate and direction of deviation from the control setting without shifting to new positions on the throttling range.

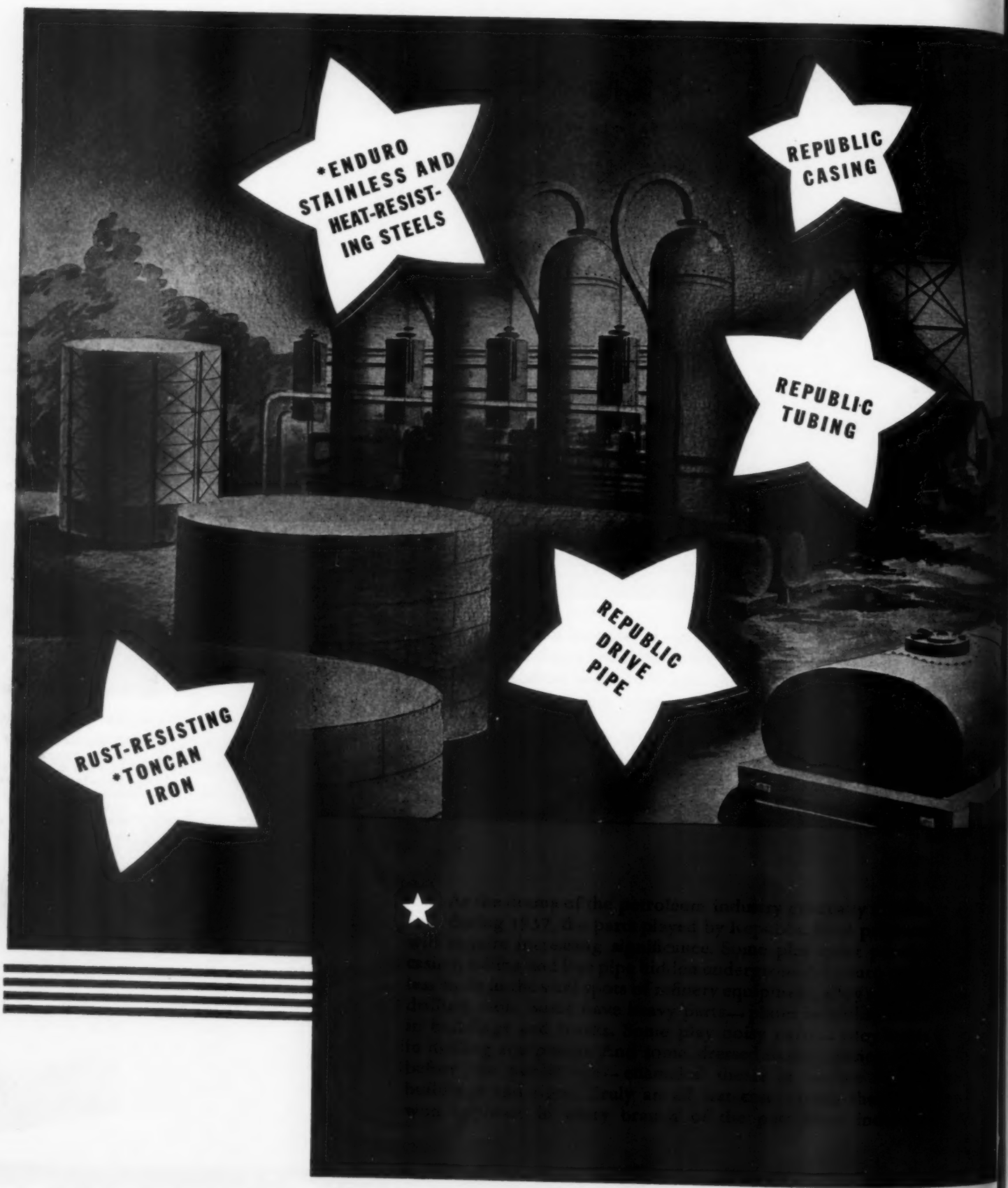
Air-o-Line is so sensitive it instantly responds to pen movements of less than 1/10 of 1% of full scale. It will make pressure changes as minute as 0.01 lb. per sq. inch or 1/4 inch water pressure at the control valve. Brown Air-o-Line is more than a controller—it's a system of control that will aid you to reduce costs.

Brown Air Operated Control Catalog No. 8901 fully describes the outstanding features and models. Write for a copy. THE BROWN INSTRUMENT COMPANY, *a division of Minneapolis-Honeywell Regulator Co.*, 4488 Wayne Avenue, Philadelphia, Pa. Offices in all principal cities. Canadian factory: 117 Peter Street, Toronto. European address: N.V. N. Minneapolis-Honeywell Co., Wijdesteeg 4, Amsterdam-C, Holland.

BROWN AIR OPERATED CONTROLLERS

OUTSTANDING PERFORMANCE WITH SIMPLICITY

"REPUBLIC STEELS IN THE



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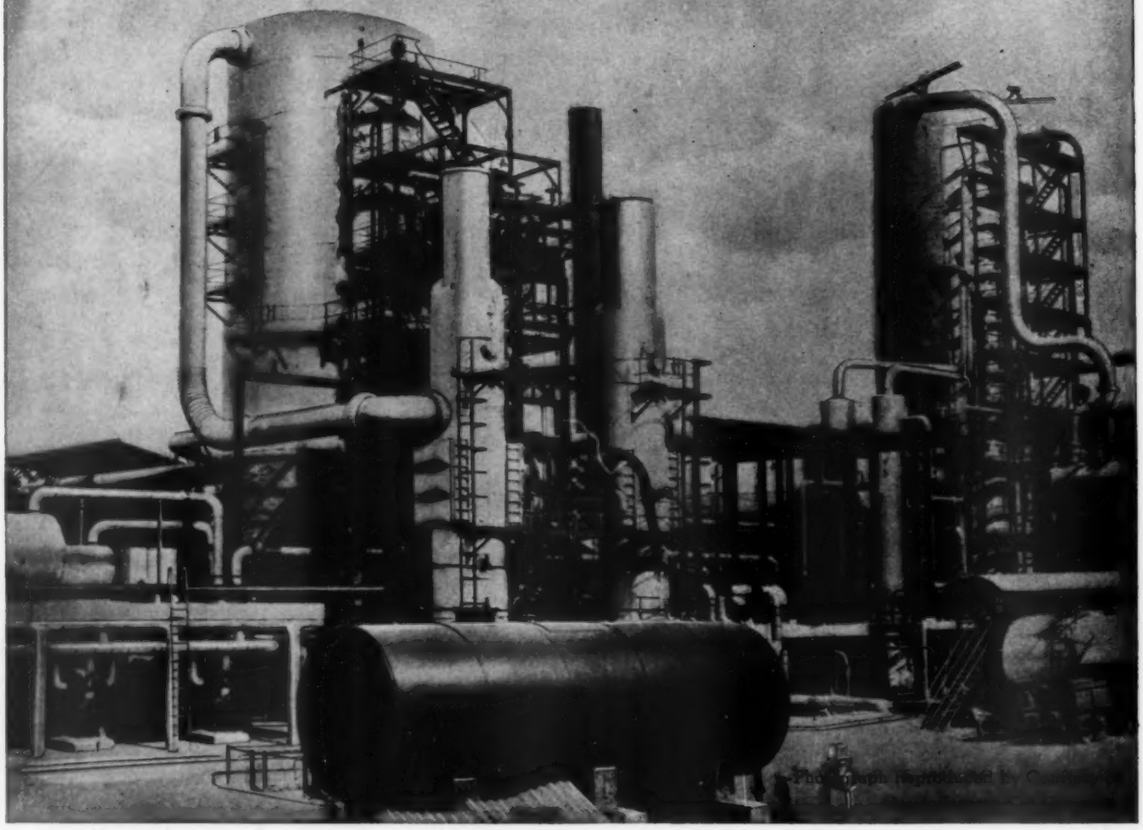

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CLAMP SLEEVE TYPE

SPECIAL DUTY ADAPTER TYPE

TYPE C

In the oil fields — where power transmission equipment must stand up to severe, continuous service — there you will find Dodge-Timken Bearings, stout and sturdy, performing dependably.

Dodge-Timken Bearings are efficiently, dependably and economically adapted to power transmission as well as for application to various types of machinery used in oil production . . . For normal or heavy service, for excessive dust or water conditions there is a Dodge-Timken bearing designed and built to insure satisfactory performance under every service condition.

Specify Dodge-Timken Bearings and you specify half a century of successful experience in building dependable power drive units.

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A complete new catalog of Dodge Rolling Bearings is now ready. A copy will be sent on request.

THE *Right* DRIVE FOR EVERY JOB

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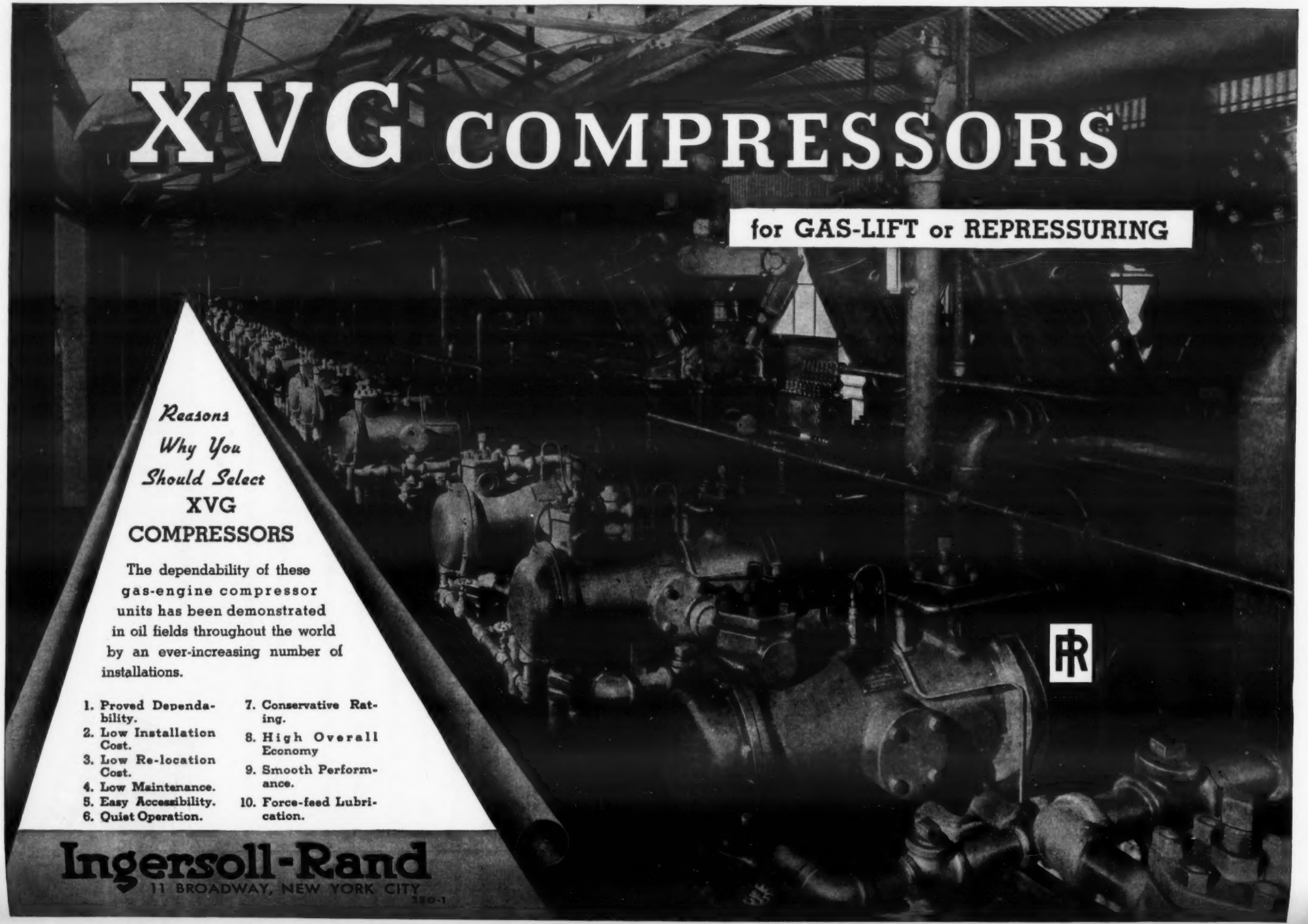
There is Added Value in the Name Dodge


XVG COMPRESSORS
for GAS-LIFT or REPRESSURING
Reasons Why You Should Select XVG COMPRESSORS
The dependability of these gas-engine compressor units has been demonstrated in oil fields throughout the world by an ever-increasing number of installations.
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7. Conservative Rating.
8. High Overall Economy
9. Smooth Performance.
10. Force-feed Lubrication.
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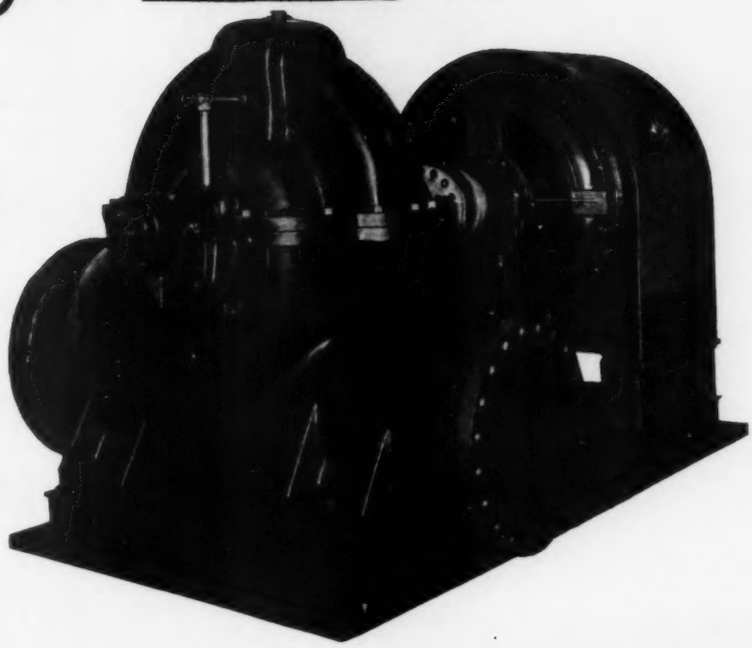
Cast Iron gets **TOUGH**... *with* **NICKEL**



● Does your equipment need greater toughness, greater strength, greater hardness than did corresponding equipment of five years back? You can have them all, in *modern* cast iron.

Adding small amounts of Nickel, sometimes with chromium and molybdenum, to cast iron increases its density. Steps up its tensile strength even to 60,000 p.s.i.—if you need it that high. And greatly increases—almost doubles—its toughness.

The large centrifugal pump casing at right, cast for oil refinery use by Ingersoll Rand Co., gains unusual wear, heat and corrosion resistance by using all these properties of Nickel Cast Iron.

...*and* NI-RESIST* *stands off corrosion too!*

● Centrifugally cast Ni-Resist pipe, produced by American Cast Iron Pipe Co., Birmingham, Ala. Under a load of 6130 lbs. this 16 ft. length of 4″ pipe was deflected only 11¾″; permanent set was 7½″.

● Body and all valve parts of this lubricated plug valve, mfd. by Merco Nordstrom Valve Co., Pittsburgh, Pa., are of Ni-Resist.

● In some of your equipment toughness, wear resistance and strength are not enough. In pipe lines and valves that handle corrosive acids and gases, long life and economy are gained only with a cast iron that resists corrosion. For just such installations NI-RESIST is made. A cast iron to which is added approximately 14% Nickel, 2% Chromium, and 6% Copper...Many refiners find it outlasts plain cast iron by 5 to 1. To determine the best compositions of these *modern* cast irons to fit your plant, we invite consultation.

*Reg. U. S. Pat. Off. by the International Nickel Company, Inc., New York, N. Y. Canadian Patent 278,180

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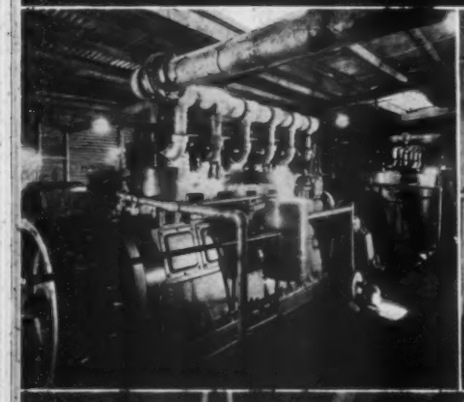
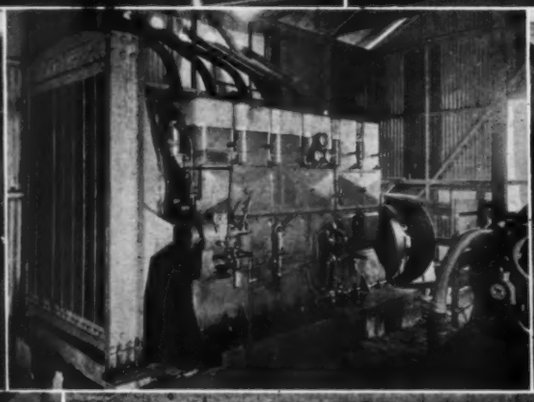
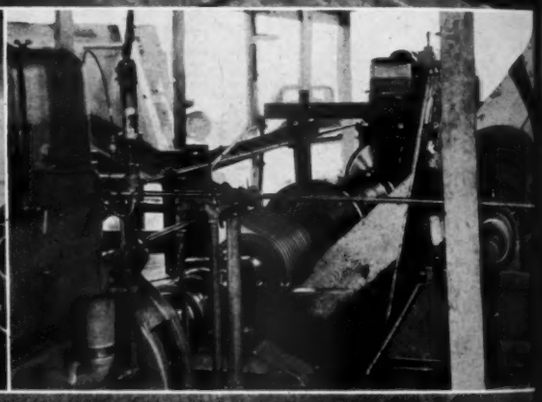
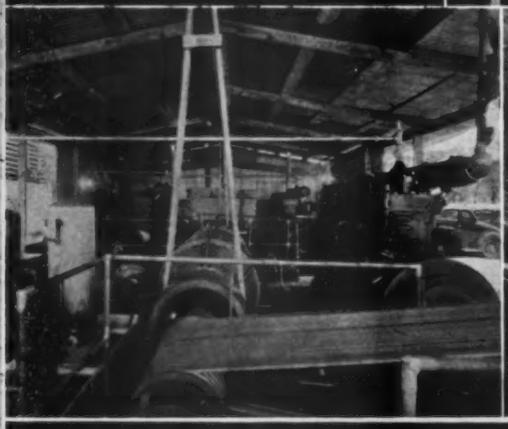
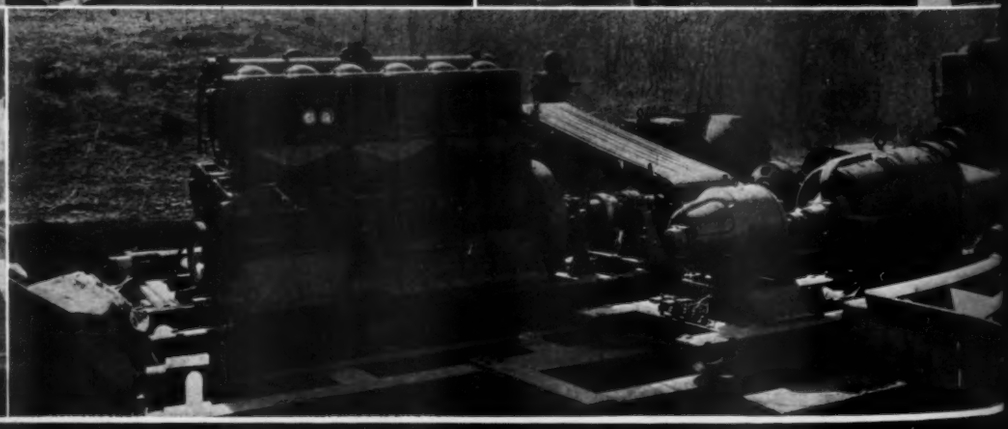
Point the Trend in Drilling











SEND FOR A COPY OF OUR BULLETIN "ATLAS IMPERIAL DIESELS FOR ALL OIL FIELD SERVICE"

ATLAS IMPERIAL DIESEL ENGINE CO.

OAKLAND, CALIFORNIA · · MATTOON, ILLINOIS

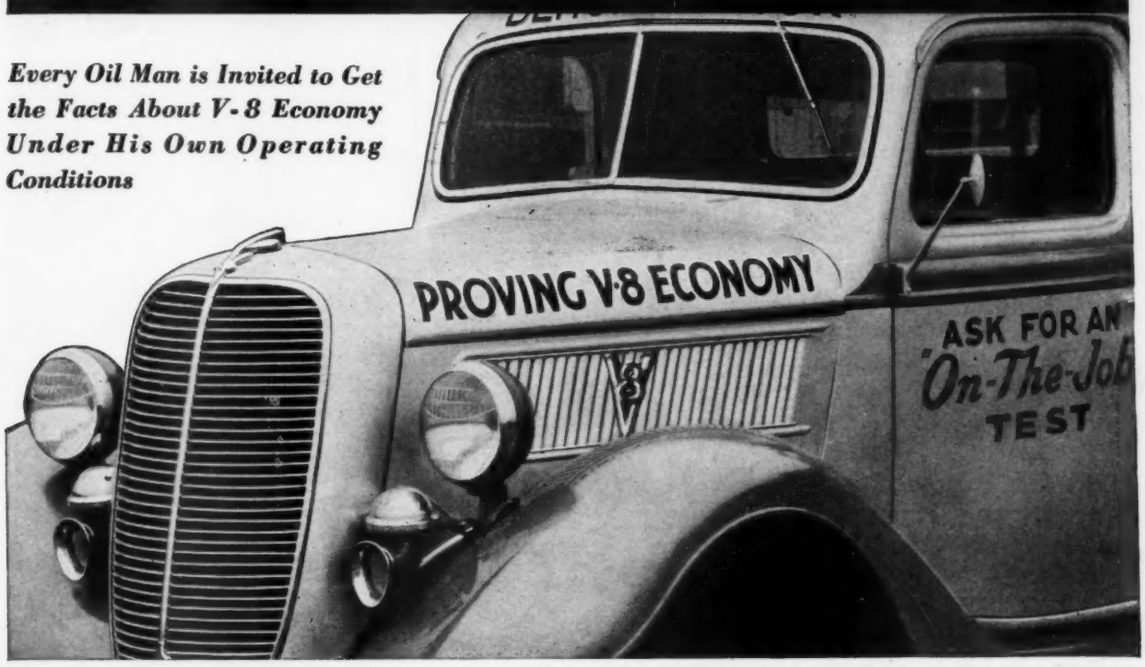
Oil Country Distributors

K. S. RICHARDS · WICHITA · OKLAHOMA CITY · FORT WORTH · HOUSTON

ATLAS IMPERIAL

WINNING NEW OWNERS BY ACTUAL PROOF!

Every Oil Man is Invited to Get the Facts About V-8 Economy Under His Own Operating Conditions



WHEN you buy your next truck, what will you want to know . . . what it IS . . . or what it DOES? In either case, your Ford dealer is prepared to PROVE the outstanding advantages of Ford V-8 Trucks and Commercial Cars.

If you are interested in mechanical detail, your Ford dealer can give you the facts about any part . . . and tell you its effect on power, speed, economy, reliability, safety, comfort and appearance. And if you are interested in RESULTS, he will be glad to let you make your performance and economy tests under your own operating conditions.

This year, every type in the Ford V-8 Truck and Commercial Car line is available with an 85-horsepower engine improved to give new economy on heavy-duty and high-speed operations. And types commonly used for light delivery work are also available with a new 60-horsepower V-8 that is setting new records for high gasoline mileage. Ask your Ford dealer to demonstrate the engine best suited to your individual needs. Call him today and set a date for an "on-the-job" test.

Convenient, economical terms through the Authorized Ford Finance Plans of the Universal Credit Company.

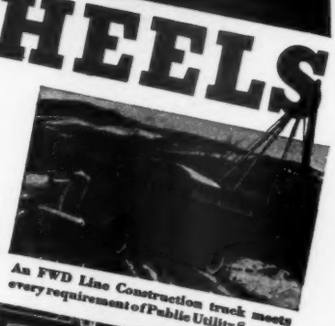
FORD V-8 TRUCKS AND COMMERCIAL CARS

ON ALL FOUR WHEELS

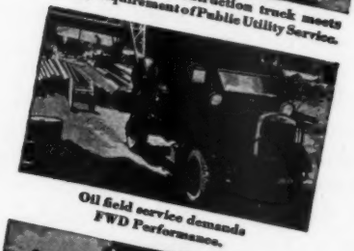
gives you greater SAFETY and PERFORMANCE

Four-wheel-drive gives the same increased safety, performance, and economy that are found in four wheel brakes . . . and likewise four-wheel-drive is another advancement which adds appreciably to safe, dependable, and economical performance of trucks . . . In the FWD the power is scientifically distributed over the four wheels thus reducing the stress on each driving axle by one-half and increasing tire mileage. More of the engine power—88.2%—is available for moving the load.

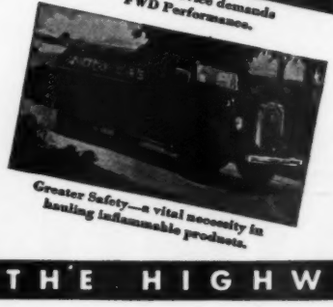
Power on the front wheels gives more positive steering . . . the driving force is always in the same direction that the front wheels are turned. Two independent sets of four wheel brakes are features in the FWD . . . the FWD Truck is unmatched for safety—speed and performance.



An FWD Line Construction truck meets every requirement of Public Utility Service.



Oil field service demands FWD Performance.



Greater Safety—a vital necessity in hauling inflammable products.

FWD

THE FOUR WHEEL DRIVE AUTO CO.
CLINTONVILLE, WISCONSIN
Canadian Factory, KITCHENER, ONTARIO

FOUR-WHEEL-DRIVE
TRUCKS

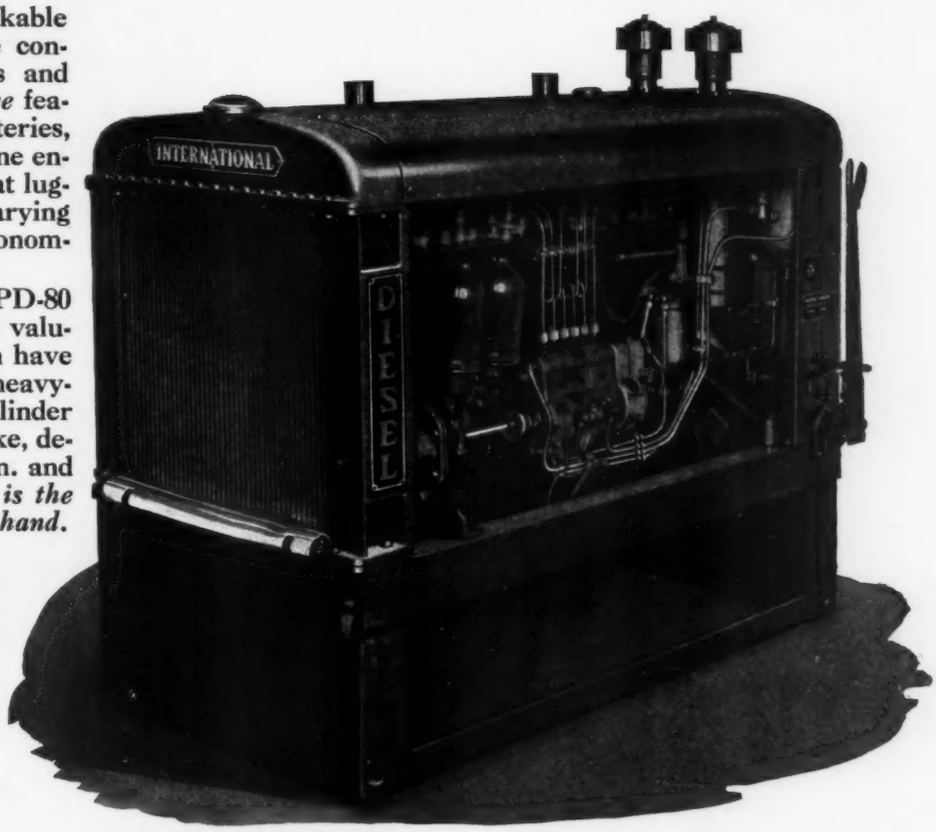
THE SAFEST TRUCK ON THE HIGHWAY

It Will Pay You to Investigate INTERNATIONAL Diesel Power

International Diesel Engines are remarkable achievements in Diesel design and engine construction. They start as gasoline engines and readily shift to Diesel operation, an *exclusive* feature which eliminates auxiliary engines, batteries, etc. And they are as easy to crank as gasoline engines of corresponding size. They have great lugging ability, are quickly responsive to varying load requirements, idle smoothly, and are economical to maintain.

With the introduction of the new Model PD-80 Diesel Power Unit shown at the right, the valuable features of International Diesel design have become available to many new users of heavy-duty power in the oil industry. This big 6-cylinder engine, with its 4¾-in. bore and 6½-in. stroke, develops a maximum of 100 h.p. at 1400 r.p.m. and delivers 80 h.p. under continuous load. *It is the only 6-cylinder Diesel that can be cranked by hand.*

The International PD-40 Diesel Power Unit has a maximum of 62.5 h.p. at 1250 r.p.m. Its economy is available for mobile power work also, in the Model TD-40 TracTracTor and Model ID-40 Wheel Tractor shown below. Other International Power Units for gasoline and natural gas operation range in size up to 110 max. h.p.



INTERNATIONAL HARVESTER COMPANY
(Incorporated)
606 So. Michigan Ave. Chicago, Illinois

International TD-40 TracTracTor owned by Earl Collins, Riverdale, Kans., digging a slush pit.

International TD-40 TracTracTor

This International Diesel-powered crawler tractor makes low costs a reality on heavy-duty work. Combined with its economical operation is its maintenance economy —International TracTracTors are the most accessible crawler tractors on the market. The Model TD-40 has thoroughly proved its abilities under all kinds of operating conditions everywhere.

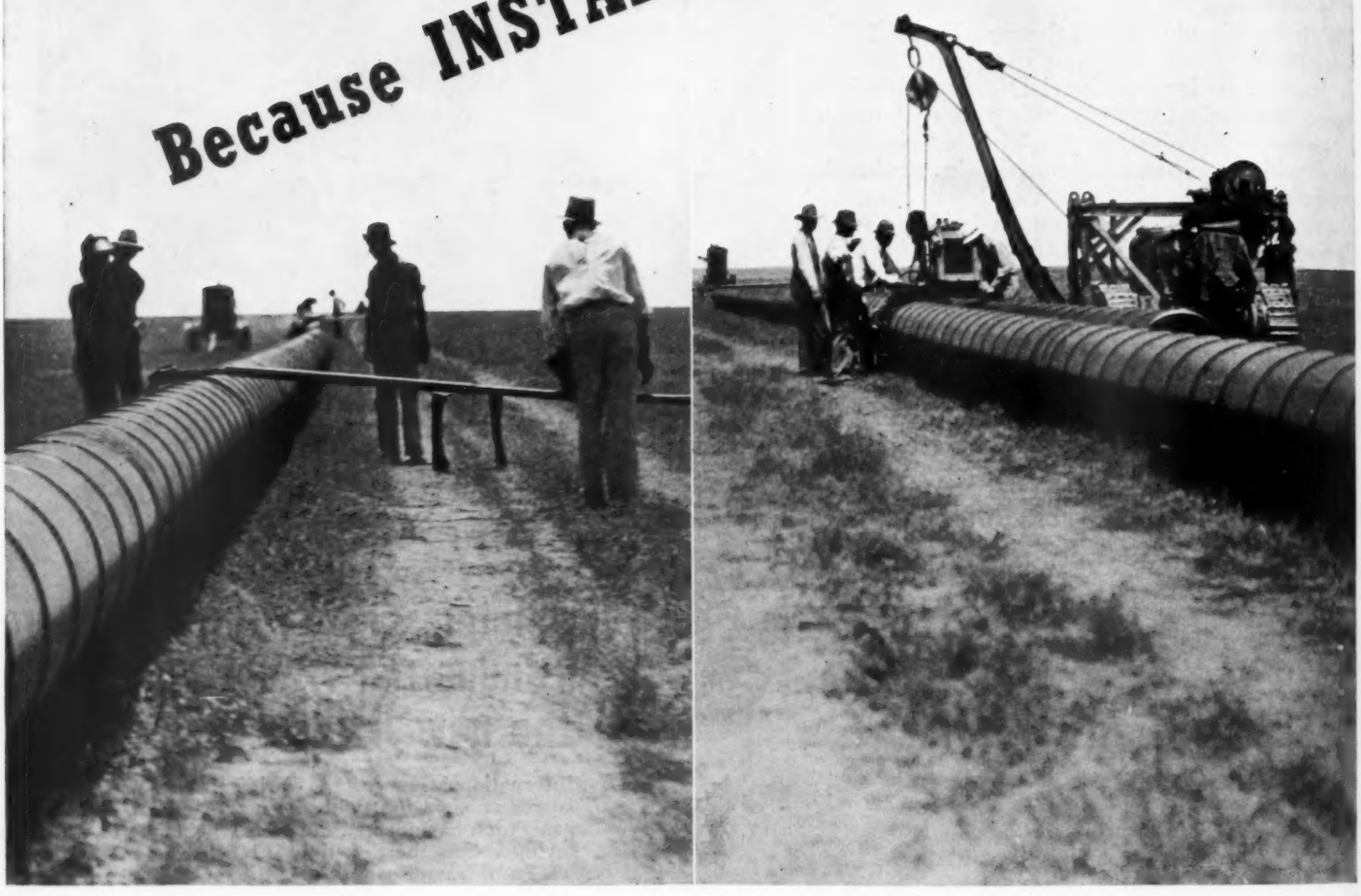
America's FIRST Diesel-Powered Industrial Wheel Tractor— the new INTERNATIONAL ID-40

International Harvester, world's largest tractor builder, scores another *first* with the new Model ID-40. This organization has adapted the Diesel principle to wheel-tractor operation, the first time it has been done in America. This new tractor uses the same International Diesel engine that has proved so successful in the International TD-40 TracTracTor and the Model PD-40 Power Unit. The Model ID-40 Tractor has power and stamina to handle a variety of heavy-duty work calling for a wheel tractor. See the nearby Company-owned branch or industrial dealer for full information on the International line of industrial power.

INTERNATIONAL HARVESTER

THEY'RE USING NAYLOR PIPE

Because INSTALLED COST IS LESS



● Why do engineers specify Naylor Lockseam Spiralweld Pipe? ● The exclusive Naylor structure provides greater strength, greater flexibility, greater qualities of safety and stamina than any other light weight pipe. ● Less spectacular but equally important, Naylor Pipe is absolutely round with accurate diameter plus heavy reinforced concentric ends that always match correctly. ● Combining all these factors, the big reason comes from performance in the field where Naylor Pipe is easy to assemble, insures a better field welding job and MAKES INSTALLED COST CHEAPER. ● That's why more Naylor Pipe is used on gas-gathering lines than any other light weight pipe today. ● For details and prices, call us or our distributors.

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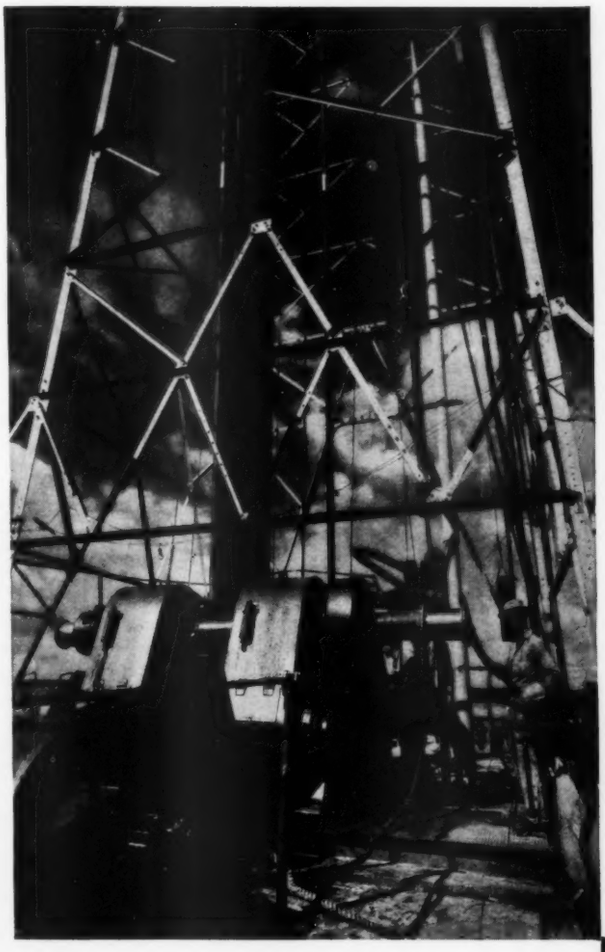
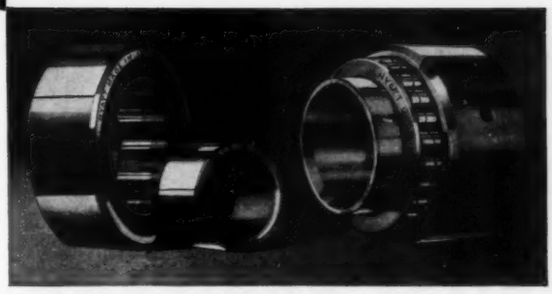


The Tougher the Load the *Greater* the Need for HYATT

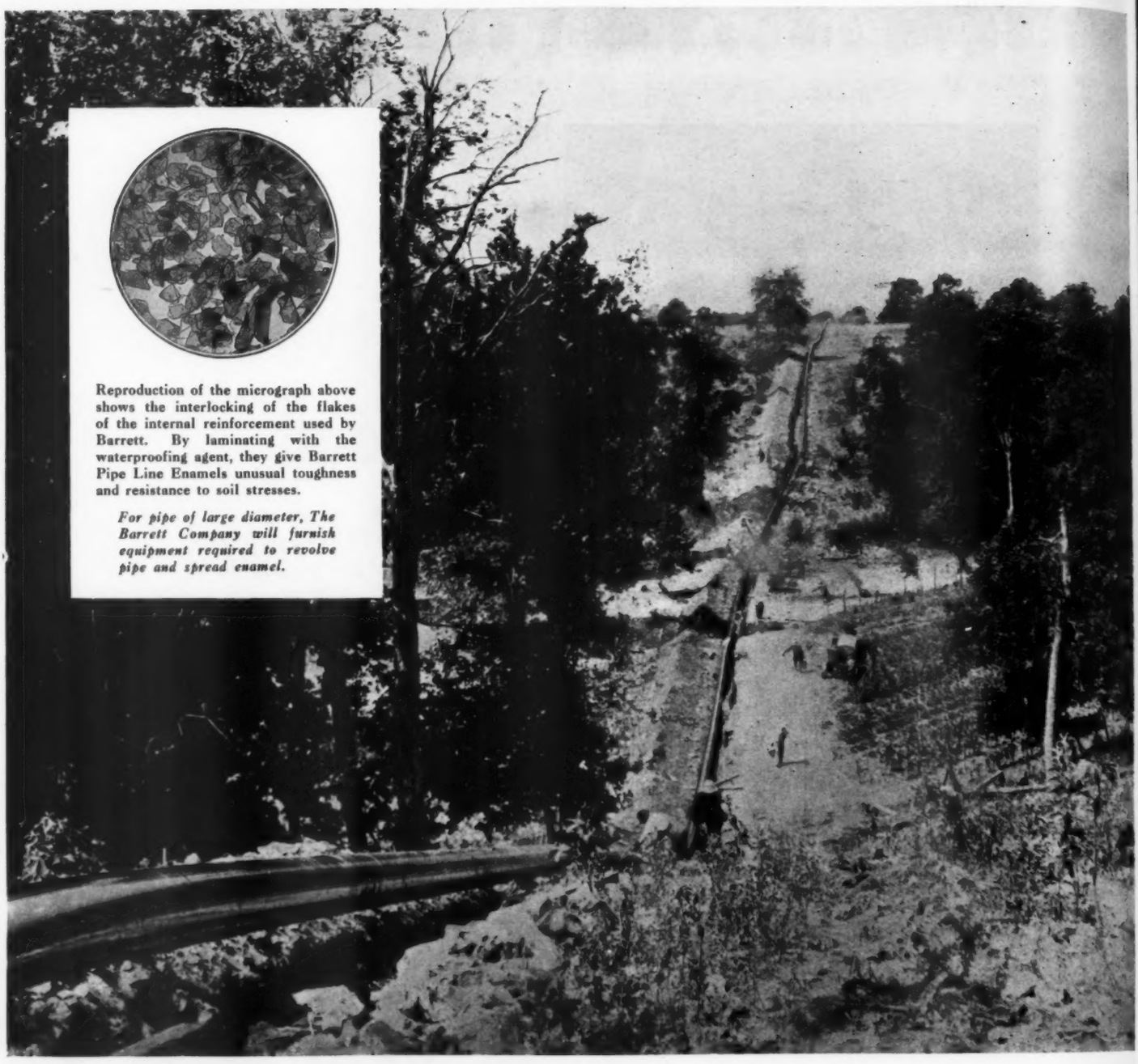
IN oil field service today the greater shocks, strains, and speeds throw a much greater burden on the bearings that carry the load. For this reason Hyatt Roller Bearings are extensively used.

Their greater strength, their endurance, their freedom from wear and care, their power-saving operation—combine to make Hyatts the most efficient and economical bearings for such hard and exacting service. Build in Hyatts and you build in satisfaction. Hyatt Bearings Division, General Motors Corporation, P.O.Box 476, Newark, New Jersey.



The **DREADNAUGHT DRAWWORKS**, illustrated, built by the BEAUMONT IRON WORKS CO., like their big "Dreadnaught Blocks," are Hyatt Roller Bearing equipped for economical deep well drilling.

HYATT
ROLLER BEARINGS



Reproduction of the micrograph above shows the interlocking of the flakes of the internal reinforcement used by Barrett. By laminating with the waterproofing agent, they give Barrett Pipe Line Enamels unusual toughness and resistance to soil stresses.

For pipe of large diameter, The Barrett Company will furnish equipment required to revolve pipe and spread enamel.

Unusual resistance to soil stresses

The unique flake-type filler employed in Barrett Pipe Line Enamels permits the use of greater quantities of high-melting-point coal-tar pitch base. The result is pipe coating with superior resistance to the destructive effects of soil action.

This feature, together with their high flowability and resistance to water absorption and line currents, makes Barrett Enamels an outstanding value for the protection of underground and under-water pipe line installations.

THE BARRETT COMPANY, 40 Rector Street, New York, N. Y.

Barrett PIPE LINE ENAMELS

FIELD SERVICE The Barrett Company maintains a Pipe Line Service Department to assist engineers in all coating problems, and also has available Field Service men whose assistance is offered where Barrett's protective coatings are used. Inquiries are invited.

Fig. 1640

"KING-CLIP"

GATE VALVE

Because it stands up where the treatment is rough and the service hard, Fig. 1640 has become one of the most popular general purpose valves in the oil country.

All working parts are of bronze, including the bushing cast in the bonnet (an original Lunkenheimer feature.) The drain channels in the bonnet are likewise original with Lunkenheimer. The "King-clip" gives all the advantages of a good bronze valve with the added advantage of the rigidity of an iron body valve. All parts are renewable.

Try the "King-clip" in the many places where small gate valves are used—Bronze Mounted patterns for steam, oil, gas, air, water and gasoline lines—and All-Iron for handling solutions which attack bronze but not iron. They'll stay tight and they'll give you the added service life characteristic of all Lunkenheimer valves.

The Lunkenheimer distributor carries ample stocks to take care of your requirements.

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"QUALITY"
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All patterns are fully illustrated and described in circular 504. Write for your copy.

BOILER MOUNTINGS — LUNKENHEIMER VALVES — LUBRICATING DEVICES

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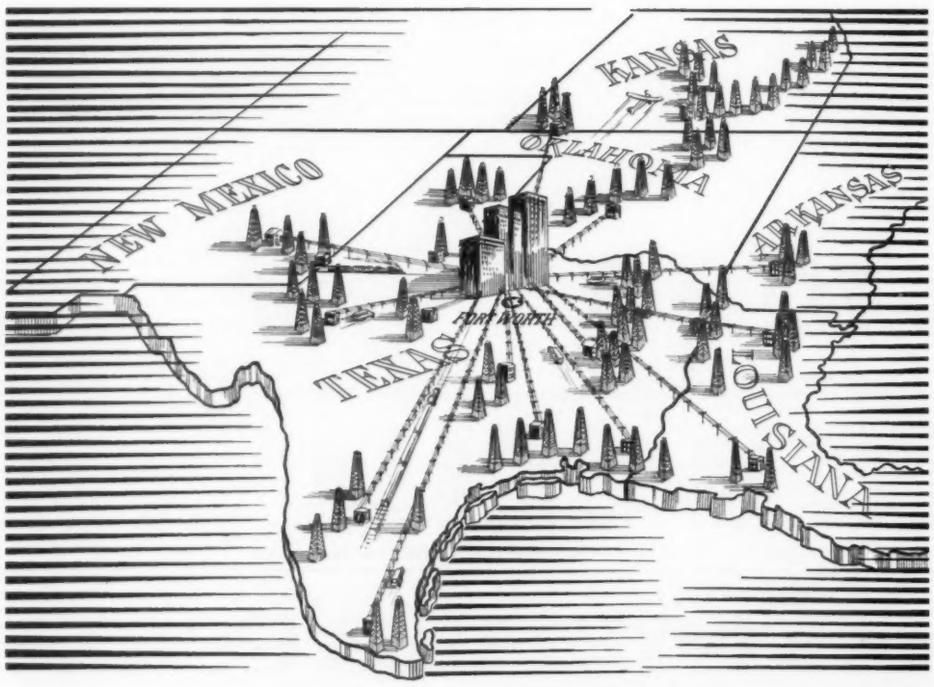

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...and Fort Worth Banks are Active in Oil Finance

★ ● Fort Worth's strategic location in the economic, geographic and transportation center of the Mid-Continent area long since made this city a capital for the oil industry. ● Fort Worth's Banks—with their years of experience right in the heart of Mid-Continent developments—offer oil men ample resources and convenient, time-saving facilities . . . as well as a helpful understanding of the oil industry. ● Give us an opportunity to serve you . . . a thorough discussion of your individual problems may lead to some way we can materially help you. ★

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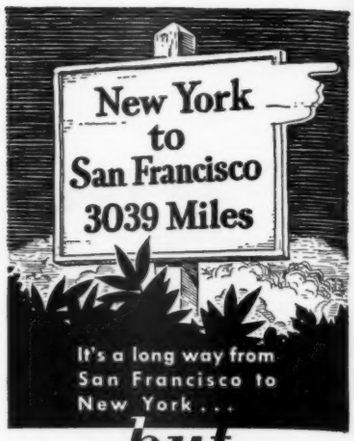

but

these DARCOVA VALVE CUPS *traveled 3878 Miles in the Oil Pumping Service*

The place—Tulsa, Oklahoma. The time—from May 26th, 1925 until October 23rd., 1935 . . . . during which time the pump was operated three or four hours a day —6 days per week at a speed of 15 or 16 strokes per minute. It took a little mathematics to arrive at the actual *mileage* of this single set of valve cups. But it shouldn't take *any figuring* on your part to arrive at the conclusion that THE ORIGINAL COMPOSITION VALVE CUPS eliminate frequent re-cupping.

DARCOVA (Orange Label) the standard for more than thirty years under severe service at all depths.

DARFLEX (Green Label) the popular favorite for wells at 800 feet in depth.

DARVAL (Blue Label) for super-service in wells to approximately 2,000 feet in depth.

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DARLING VALVE & MFG. CO.
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CURTIN CENTRIFUGE

It meets all **A.S.T.M. Standard Method D-96-35** and **A.P.I. Code No. 25** requirements. It is ruggedly built, simple in design and needs no special care. Gear ratio and throw of the crank designed to produce the required speed with the least effort consistent with good mechanical construction.

Cranks and Heads for 100 c.c. and 15 c.c. machines are interchangeable.

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★ LONG TANGENTS
¼" per inch of fitting diameter. Advantages: (1) Pipe and Ell are lined up more quickly and accurately thus reducing installation time and cost. (2) Short nipples and the extra welds they require are frequently eliminated. (3) Etc.
★ SAVE PIPE
When a 12" Midwest Ell is used the tangents alone save 6" of pipe, while the radius of 1½ nominal diameters (instead of one nominal diameter) is responsible for an additional saving of 12" of pipe.
★ DIMENSIONAL ACCURACY
and uniformity not otherwise possible result from final working in compression.
★ LARGE RADIUS
Radius is 1½ times nominal diameter instead of being only equal to nominal diameter. Larger radius makes welding more convenient and reduces installation time. It also saves pipe and eliminates excessive pressure drop.
★ STRESS RELIEVED
Midwest Ells are first made slightly over-size. They are then reheated to a forging heat and reduced to correct size in compression.
★ UNIFORM WALL THICKNESS
results from manufacturing process which is used exclusively by Midwest.
★ GREAT STRENGTH
Destruction tests have proved Midwest Ells always at least as strong as the corresponding pipe.

90° ELL

45° ELL

VAN STONE NIPPLE

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RETURN BEND

BUTT FLANGE

SLIP-ON FLANGE

SADDLE

TEE

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Beaumont, Texas, in the days of the Spindletop discovery in 1901 where high, wide and handsome deals flourished. Some were fabulously profitable—many were disastrous. These brokers included all sorts of individuals from clerks, business men and true oil men to dubious speculators. Withal, curbstone brokerage has always added a romantic spark through all the history of oil's progress.

High excitement, such as marked the colorful days of the curbstone brokers, has not been lost to oil production. . . . Success is always exciting. For example, from the 9,000 wells treated with Dowell *Inhibited* Acid, additional oil valued at over $50,000,000 has been recovered for operators. The combined enthusiasm of these producers is louder, by far, than the most stirring sale ever held.

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Better control of inhibited acid in well treatment results from Dowell's latest advance—Dowell Jelly Seal. So positive are results that wells formerly not responding to ordinary acid treatment now show decidedly profitable results. Dowell Jelly Seal widens the scope of Acidizing. Write for your copy of The Dowell Acidizer just published, entirely devoted to "Jelly Seal in Acidizing." Available at all Dowell offices.

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